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CORRELATION BETWEEN PERCIVED QUALITY OF LIFE AND HEALTHY ENVIRONMENT IN YOUTH

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Abstract. *The purpose of this present research was to find out the correlation between the perception of quality of life (QL) and physical/sports activity (P/Sa) in youths (girls: n = 412; 18.43 ± 1.5 yrs; boys: n = 520; 18.51 ± 1.72 yrs) in Slovenia. The subjects were asked to evaluate the quality of their life (QL) (excellent, very good, good, poor, very poor) and to fill in other variables regarding the economic indicators of their families, the tidiness of the family environment, leisure activities, level of overnourishment and some motor abilities. In a further analysis we investigated the differences between two extreme groups, according to their self-rated QL (very good – excellent as one extremity and poor – very poor as the other one). In the case of the subjects who declared to have poor quality of life (PQL) a lack of interest emerges for sports engagement. They show substantially worse results in the trunk-raising test (TR) as well as in the 600m-running test (T600m) than the subjects who declared to have a good quality of life (GQL) (P = 0.05). These findings point out a need for a holistic treatment of the problem. Everyone involved in the promotion, stimulation, organization and management of P/Sa contents must reflect upon these findings.*

Key words: *youths, life quality, physical/sports activity*

1. INTRODUCTION

Many people relate the quality of their life (QL) with good material conditions. Others, particularly the ill or disabled, think that health is most important. Thus some classifications include a measure of the QL of people's experiences - such as self-reported health (Henderson, Lickerman, & Flynn, 2000). In their comprehensive »Quality of life«

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model, Day and Jankey (1996) concluded that although objective life circumstances are important in individuals' determination of their QL, there are subjective interpretations and evaluations of their experiences that are the most crucial.

However, one's life is determined by different factors, genetic, environmental as well as an individual's activity. The proportion of the population involved in sedentary activities has never been so high. In addition, spare time spent in front of a television set or a personal computer is getting higher and higher. The lack of a satisfactory amount of physical/sports activity (P/Sa) leads to chronic non-contagious diseases, which account for the major mortality factors nowadays.

Over the past few decades we have minimized the need for the physical activity of most people in industrialized societies. To address the major public health problem of physical inactivity we have to consider and evaluate social, environmental and individual approaches to make physical activity more common for the majority of the population (Blair, 2005).

This research focuses on some relationships observed between the life style, morphological traits and parameters of motor efficiency of youths, considered as part of a broader research project (Pišot & Fras, 2005). These were verified within two groups of youths and dealt with in relation to the level of the QL on the basis of their subjective opinion and somse indirect criteria. We examined the relationships between the variables which are considered the economic indicators of the youths' families, the tidiness of the family environment, leisure activities, the level of overnourishment and some motor abilities.

2. METHODS

Subjects

1079 male and female students of the first, third and fifth year of secondary school on the national level were involved.

We extracted those youths who think that their QL is poor or even very poor and those who think that their QL is good or excellent. The proportion of those who believe that they have a poor or very poor QL represents about 10% of the whole sample considered, which cannot be neglected if we bear in mind the significance of the issue in case and the general endeavor, at least on the declarative level, to grant youths the best conditions and stimuli for a quality development.

Table 1. Basic characteristics of the subjects

	Youths	
	Girls (n = 412)	Boys (n = 520)
Age (years)	18.43 ± 1.5	18.51 ± 1.72
Body weight (kg)	57.4 ± 8.3	69.6 ± 12.5
Body height (m)	1.65 ± 0.58	1.76 ± 0.72
BMI	21.1 ± 2.78	22.33 ± 3.35
Trunk rasing test (repetitions)	38.81 ± 10.6	43.55 ± 9.8
600m running test (s)	174.11 ± 22.98	136.61 ± 20.6

Sample of variables

The methods used were divided into three groups:
1. questionnaires,
2. motor tests,
3. anthropometric measurements.

The questionnaires were filled in by investigator assistants who were in personal contact with the study subjects. The variables included were: the evaluation of the QL, I live with my parents, do you own a house, how many hours per day do you sit after school from Monday to Friday, how many hours per day do you sit after school, during the weekend; I'm involved in P/Sa because of: the shape of my body, entertainment, health, treatment of a disease brought up by P/S inactivity, being with friends, because I'm an active athlete, physical condition, because my parents are active as well; frequency of practicing sport (often, sometimes, never).

Motor tests. In the selection of motor tests to be performed, various criteria were considered, such as applicability to all age groups, comparability across groups, as well as various hypothetical dimensions of the examinees' motor space. The battery of tests comprised physical endurance: the 600m running test (T600m) and strength: the trunk raising test (TR) (we counted the repetitions over 60s).

Anthropometric measurements. The following variables were selected: body weight and body height. We used both variables to calculate: the body mass index (BMI). Considering BMI and age we divided the children into overnourished level groups, according to the BMI Chart (Cole, Freeman, & Prece, 1995): undernourished, normally nourished, overnourished and obese.

The study protocol was approved by the National Committee for Medical Ethics of the Republic of Slovenia.

Statistical analyses

In addition to the basic descriptive statistical methods, the differences between and within the groups (the youths who think that they have a poor quality of life (PQL) and the youths who think they have a very good quality of life (GQL)) were analyzed by a chi-square test (for non-numerical variables), the t-test or analysis of variance (for numerical variables). In the t-test we verified the assumption of statistical testing (the homogeneity of the variance) with Leven's test. Differences were considered as statistically significant at $P = 0.05$. The data were analyzed by means of the computer statistical package SPSS version 14.0. The subsequent elaboration took into account only those variables that showed statistically significant differences.

3. RESULTS

To summarize: the youths with a PQL substantially less frequently engage in sports than those who believe to have a very GQL (Table 4). The part of the youths never participating in sports is substantially larger in those with a PQL than in the other group (Table 4). Among the youths declaring to have PQL motives for participation in P/Sa such as entertainment, being an active athlete and physical condition are much less expressed than in the youths who believe to have a very GQL (Table 2 and 3). These data reflect a certain lack of interest to engage in sports on the part of youths with a PQL. It is thus far from surprising that this lack of interest is reflected in the youths' poor motor abilities. The youths who considered the QL as poor show substantially worse results in the trunk-raising test and 600m-running test with statistically significant differences.

Table 2. The quality of life in relation to the living conditions and motives for P/Sa among youths

	Youths					
	Girls			Boys		
	GQL	PQL	P (two-sided sig.)	GQL	PQL	P (two-sided sig.)
Living with my parents (%)	90.40	70.40	0.001	90.4	85.00	0.43
Owning the house (%)	77.00	51.90	0.00	77.00	75.00	0.84
Involved in P/Sa because of the shape of my body (%)	59.30	44.90	0.14	44.90	25.00	0.08
Involved in P/Sa because of entertainment (%)	67.30	40.70	0.00	67.30	50.00	0.11
Involved in P/Sa because of health (%)	60.30	59.30	0.91	60.30	45.00	1.17
Involved in P/Sa because of the treatment of a disease (%)	4.00	3.70	0.94	4.00	20.00	0.00
Involved in P/Sa because of being with friends (%)	45.10	25.90	0.05	45.10	30.00	0.18
Involved in P/Sa because I'm an active athlete (%)	31.10	11.10	0.03	31.10	25.00	0.56
Involved in P/Sa because of physical condition (%)	37.90	22.20	0.10	37.90	35.00	0.80
Involved in P/Sa because my parents are active as well (%)	6.20	7.40	0.80	6.20	10.00	0.50

Among the youths a statistical significance can be seen in the variable living with parents (Table 2) as well. A large share of the adolescent girls living with one parent or even without parents declare to have a PQL (29.6%), whereas only 9,6% declare to have a GQL.

Among the girls who declared to have a GQL, there is a significantly larger portion of youths living in a house (77%), as it is the case with girls who declare to have a very PQL (51.9%).

As shown in Table 2, a considerable portion of those girls who believe to have a very GQL are involved in activities because it is entertaining (67.3%). Among those girls who believe to have a very PQL, 44.9% are involved in it because it is entertaining.

Among the young girls declaring to have a PQL, only 25.9% believe socialization with friends is the motive for their engagement in sports. The portion of young girls who consider their association with friends as the motive for their participation is sports activities is much larger among the youths declaring to have a very GQL (45.1%) (Table 2).

Table 2 shows that being an active athlete is not a frequent motive, yet there are statistically significant differences between the two groups of young girls. It is clear that a substantially larger portion of girls (31%) engaging in sports as active athletes declare to have a very GQL. On the contrary, only 11% of the girls considering their QL as poor participate in sports as active athletes.

Statistically significant differences were found in variables involved in P/Sa because of the treatment of a disease. Considerable portions of those young boys who believe to have a very PQL are involved in activities because of the treatment of a disease (20%) in comparison with boys who believe to have a very GQL (4%).

Table 3. The quality of life in relation to the frequency of practicing sport and nourishment among youths

	Youths					
	Girls			Boys		
	GQL	PQL	P (two-sided sig.)	GQL	PQL	P (two-sided sig.)
	Frequency of practicing sport (%)					
Often	62.3	29.6	0.00	62.3	55	0.032
Sometimes	34.3	55.6		24.3	30	
Never	3.4	14.8		3.4	15	
	Undernourishment, normal nourishment, overnourishment and obesity (%)					
Undernourishment	10	15	0.12	10	12.5	0.27
Normal nourishment	79.6	65		79.6	62.5	
Overnourishment	7	20		7	18.8	
Obesity	3.4	0		3.4	6.3	

Table 4. The quality of life in relation wirh sitting and motor abilities among youths

	Youths					
	Girls			Boys		
	GQL	PQL	P (two-sided sig.)	GQL	PQL	P (two-sided sig.)
Sitting from Monday to Friday after school (hour/day)	4.55 ±2.5	4.64 ±2.13	0.87	4.55±2.5	4.6 ±2.61	0.94
Sitting during the weekend (hour/day)	5.39 ±3.27	6.0 ±2.99	0.35	5.39±3.27	4.86±3.23	0.55
Trunk rasing test (repetitions)	42.46±10.58	35.95±8.49	0.005	42.46±10.6	38.63±9.72	0.15
600m running test (s)	148.66±28.74	181.79±25.01	0.00	148.66±28.74	147.8 ±16.92	0.91

Table 3 shows that among those young girls who think that they have a PQL, 29.6% often and 55.6% sometimes practice sport, while even 14.8% never practice sport. Among those girls who consider their QL to be a very good one, 62.3% often and 34.3% sometimes practice sport, while only 3.4% never practice any sport. Among those boys who think that they have a PQL, 55% often and 30% sometimes practice sport, while even 15% never practice sport. Among those boys who consider their QL to be a very good one, 62.3% often and 24.3% sometimes practice sport, while only 3.4% never practice any sport.

From the table above (Table 4) it can be inferred that, young girls that consider their QL as poor, achieved poorer results in the trunk-raising test (35.95 repetitions) than the young girls who declared to have a very good quality of life (42.46 repetitions).

Also in T600m, the young girls declaring to have a PQL (181.79 s) performed much poorer than the girls who considered their QL as very good (148.66 s). These data are extremely interesting, pointing to statistically significant differences between the two groups of youths in relation to their functional capacities.

4. DISCUSSION

The results show a large portion of youths who live in incomplete families. A large portion of adolescent girls living with one parent or even without parents declare to have a PQL (29,6%), whereas only 9,6% declare to have a GQL (Table 2). Family and family interrelations influence to a great extent the behavior style of individuals and consequently the QL. According to some definitions (Allardt, 1993), QL is an expression of the fulfillment of three basic human needs: material needs or "to have", referring to the basic human needs for survival and security: material sources, living conditions, education, health, employment, working conditions; social needs or "to love", referring to the needs of appurtenance and acceptance on the part of family members, peers, colleagues etc.; personality needs or "to be" that include the development of one's personality: reasonable work, spending spare time actively, integration into society, participation in decisions that influence one's life, self-realization, self-confirmation, self-respect and respect of others. Those individuals deprived of a GQL early in their life continue to be deprived of it later in life.

Material differences between the group of youths declaring to have a very PQL and the group declaring to have a very GQL are significant. The portion of girls living in a house is much larger among those declaring to have GQL, than it is the case with girls declaring to have a very PQL (Table 2).

The majority of young girls in the GQL group consider entertainment, being with friends, I'm an active athlete, as the motive for their engagement in sports (Table 2). The results suggest that the youths in the GQL group are better informed of the role and the meaning that physical activity has or must have in the life of an individual, having a higher awareness of the importance of physical activity for entertainment and relaxation. Probably, the more active children are more frequently involved in various organized forms of activity, have a higher awareness of the meaning and the influence of P/Sa on health and general physical condition. We might equate children's general physical condition, endurance, with disease resistance and indirectly with their health (an enduring child – a healthy child). As such, endurance represents an important life-quality factor.

The characteristics of youths who believe to have a PQL and the youths who consider their QL as very good are the following: youths with a PQL substantially less frequently engage in sports than youths who believe to have a very GQL (Table 3). The portion of youths who never participate in sports is substantially larger in youths with a PQL than in the other group of youths. As we have already pointed out, an active life style is a part of the quality of life. However, it is unfortunately not available to everyone because it is out of reach in both the space and time dimensions or because the means for it are lacking (Pišot & Fras, 2005; Vuori, 2005).

The data reveal a stronger abdominal muscle repetitive power in youths declaring to have a very GQL (Table 4). The statistical significance of the difference in the results correctly leads us to an earnest treatment of the observed phenomenon. In view of a general frequent occurrence of P/S inactivity in children as well as of the increasingly sedentary life-style (Marshall, Biddle, Gorely, Cameron, & Murdey, 2004; Pišot, Kropej, & Završnik, 2006) these findings must be treated from a functional aspect as well. The role of abdominal muscles is well known, as well as their reaction to a sedentary life-style. The seated position stimulates the occurrence of various spinal deformations, the weakening of the abdominal muscle tonus causes bad posture and consequently a poor physical self-image. Developing a sedentary style in children and the youth population as well as its consequences seem to be clearly reflected (Marshall, Biddle, Sallis, McKenzie, & Conway, 2002; Murdey, Cameron, Biddle, Marshall, & Gorely, 2005).

The youths who consider their QL as poor show substantially worse results in the 600m-running test with statistically significant differences. It must be taken into account that the T600m results might depend on motivation and physical preparation for endurance in long-term efforts. As it has already been pointed out, physical preparation is a peculiar problem typical of youths who consider their QL as poor. However, based on the difference in results, inferences can be made about the consequently poorer endurance and aerobic abilities of the youths in this group, showing exact physiological differences between the two groups. The development of functional abilities depends largely on the general aerobic dynamic endurance (in longer lasting dynamic efforts more than 1/6 of the muscle mass is engaged) since it allows the preservation of all human vital functions as well as early the prevention of most chronic diseases, associated in adulthood with physical activity levels. The most appropriate mean of its development is outdoor P/Sa, its share in the everyday life of today's youths being far too small. Children and youths must, therefore, strengthen their endurance development contents, including thermoregulation mechanisms adaptation to temperature variation in everyday moderate outdoor activity. Adequate forms of activity must be offered in adequate ways as to allow every child and youth to accept and appropriate it. By means of decreasing the sedentary lifestyle trend that is becoming increasingly typical of children and youths (Murdey, Cameron, Biddle, Marshall, & Gorely, 2005; Pišot & Kropej, 2005) we will significantly contribute to the improvement of their quality of life.

5. CONCLUSION

In the group of youths who consider their QL to be poor we have found a total lack of interest for the field and contents of P/Sa. A lesser engagement in sports is correlated to a lower interest. Their participation in sports shows statistically significant lower levels,

where the differences in their motor and functional effectiveness appear to be of particular interest. This condition is undoubtedly partially influenced by differences in social environment typical of this group, which shows a large portion of the youths living in incomplete families. Family and family interrelations influence, to a great extent, how individuals behave and consequently their QL. The reasons for sports engagement, as stated by the subjects of the study, reveal statistical differences between the two groups. Motives that are typically associated with engagement in sports activity (entertainment, relaxation, socialization, to achieve a better physical condition) were valued as less important or even unimportant.

In view of a general frequent occurrence of P/Sa inactivity in children and youths as well as of the increasingly sedentary life-style, these findings must be treated in earnest. An active life-style is a part of a high quality life style. Due to inaccessibility in space, time and resources it is still not available for everybody (Pišot & Fras, 2005; Vuori, 2005).

The reversal of such a developmental trend or at least its retardation is possible only through a holistic approach to the problem. It is quite difficult to imagine children and youths that dislike P/Sa contents or are not entertained and relaxed by them. The role of adults, particularly parents, teachers (or other field professionals) is crucial in the development of children's behavior (Strel, Završnik, Pišot, Zurc, & Kropej, 2005; Pišot, Završnik, & Kropej, 2005). By being a good example and by raising children's awareness (educating) we may bring them closer to spending their spare time actively. Indirectly, we offer them the possibilities to develop autonomy and independence from their family as well as the possibility for increased personal responsibility.

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POVEZANOST KVALITETA ŽIVOTA I ZDRAVE SREDINE MLADIH

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Cilj ovog istraživanja je bio da se pronađe veza između sagledavanja kvaliteta života (QL) i fizičke/sportske aktivnosti mladih (devojaka: n= 412; 18.,43 ± 1.5 godina; mladića n = 520; 18.51 ± 1.72 godina) u Sloveniji. Od ispitanika se tražilo da procene kvalitet njihovog života (QL: odličan, veoma dobar, dobar, lošš, veoma lošš) i da daju i ostale podatke-varijable vezane za status njihovih porodica, čistotu porodičnog ambijenta, slobodne aktivnosti, nivo ishranjenosti i neke motorne sposobnosti. U daljoj analizi ispitivane su razlike između dve ekstremne grupe prema njihovim samoprocenama o kvalitetu života (veoma dobar-savršen kao jedan ekstrem i lošš-veoma lošš kao drugi ekstrem). U grupi koja je izjavila da ima lošš kvalitet života (PQL) javlja se nedostatak interesovanja za sportsko angažovanje. Ovi ispitanici pokazuju značajnije loše rezultate u podizanju trupa kao na testu trčanja na 600 metara, ako ih poredimo sa ispitanicima koji su izjavili da imaju dobar kvalitet života (GQL) (p = 0.05). Dobijeni rezultati ukazuju na potrebu holističkog sagledavanja problema. Stoga svi koji su zaduženi za fizičke/sportske aktivnosti moraju da uzmu u obzir ove rezultate prilikom promocije, stimulacije, organizacije i menadžmenta sportskih sadržaja.

Ključne reči: *mladi, kvalitet života, fizičke/sportske aktivnosti*