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MICHAŁ BRONIKOWSKI, JACEK GRACZ, MAŁGORZATA BRONIKOWSKA,  
MAŁGORZATA WALCZAK  
University School of Physical Education, Poznań, Poland

**IMPORTANCE OF VARIOUS DETERMINANTS OF PHYSICAL ACTIVITY  
IN INTERDISCIPLINARY AND SETTING APPROACH IN YOUTH**

**Key words:** physical activity, setting approach, youth.

ABSTRACT

Modern research related to health problems has been concerned with three most important branches: psychosomatic medicine, behavioural medicine and – most recently – health psychology. This points to the need for an interdisciplinary approach to the problems of health and disease. At the same time social changes require adjustments in educational systems and strategies with a great degree of flexibility and interchangeability. In young people the enhancement of physical activity needs to target such determinants as increasing intentions to be active, reduction of perceived barriers and increasing the time spent outdoors in a physically active way. The paper examines determinants of enhancement of physical activity in an interdisciplinary and setting approach and provides potential health educators with points to consider while arranging community or school-based physical activity enhancing programs.

INTRODUCTION

The World Health Organization defines health as a state of “complete physical, mental and social well-being, and not as consisting only of the absence of disease or infirmity” (later on the definition was expanded to cover also “the ability to productive, reasonable, and creative life in the social and economic sphere”) [16, p. 23]. It is, however, rather difficult to find such a holistic approach to health problems in biomedical studies or health promotion in school education. In practice a pathogenetic analysis of determinants of bad health condition is encountered, particularly in the case of people who lost their health and whose condition is considered in the category of disease. An analysis of the disease source, carried out

separately with respect to one’s psychical and medical-biological conditions, or regarding only their slight interconnection, enables therapy or at least elimination of the direct source of illness, but is not conducive to healing the body as a whole.

Contemporary research related to health is carried out in three most important areas: psychosomatic medicine, behavioural medicine, and – most recently – health psychology. This surely points to the need for an interdisciplinary approach to the issues of health and disease [9]. Social and economic growth is regarded, according to Cockerham [4], as one of the most powerful and coherent factors of health and life duration predictors. It should be mentioned that although Cockerham expressed his opinions in relation to the results obtained for the U.S. population, his

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**Correspondence should be addressed to:** Michał Bronikowski, Department of Methodology of Physical Education, University School of Physical Education in Poznań, Poland, ul. Królowej Jadwigi 27/39, 61-871 Poznań, Poland, tel./fax. +48 61 835 52 00, e-mail: Bronikowski.michal@wp.pl

approach confirms the need for interdisciplinary consideration of prediction of health-related social behaviour in medical sociology in general. Kawczyńska-Butrym [10] expressed a similar opinion in relation to local communities in Poland, stressing, at the same time, the question of awareness. In spite of the fact that clear improvement in the health condition of the Polish people in recent years has been noticed by Puchalski and Korzeniowska [19], such a tendency remains unnoticed among young people. According to the authors, health improvement in the adult population is a result of positive social and economic changes (better life quality, normalization of the social situation, reduction of social stress) as well as changes of health habits (lower alcohol consumption, improved diet, better health condition). Nevertheless, in the case of children and young people a wider analysis of subjective determinants would be necessary, inclusive of the motivational health-aimed ones.

An analysis of various determinants of enhancement of physical activity and exercise examined in different studies [5] show that this type of research typically supports that health education and behavior modification or cognitive-behavior modification principles can be implemented with exercise programs, and that they are accompanied by an increased frequency of physical activity within limited periods of time. The involvement of primary school children in physical activity is based on the stimulation of their interests and relationships. In their case family issues such as income, social configuration of a family, work commitments and access to leisure centers are potential barriers [12]. School-based physical activity interventions may be a reasonable solution, if they consider an appropriate influencing factors [3]. However, too little data on physical environment influences have been reported in relation to participation in physical activity. It has been proven that some aspects of personal attributes, social and physical environments, and characteristics of the activities themselves, are likely to exert an influence on one's physical activity. Dishman and Sallis [5] stress the need for many variables to be explored for comparisons within and between categories. Little or no progress has been made in identifying and ranking the interactions of personal attributes and environments and their influence on physical activity in youth. For effective intervention programs this remains a

priority for different age-categories and various settings. It will also be important to investigate, discover and understand how social and environmental variables change their power of influence according to the age, race, gender, ethnic and cultural backgrounds, as well as health condition (e.g. general fitness level). Family versus peer influence and educational interactions also need to be considered in search of lifetime activity patterns.

It seems that the change in subjective feelings and motivation of young people should be the main reason for modulating such habits, in order to make them effective and long lasting. This, in turn, is possible only in result of a systematic health education. Otherwise, the permanent health attitudes, manifesting themselves, among others, by the care for health and physical efficiency, could not be expected.

The above thesis can be also confirmed by other health-related concepts. Some authors, e.g. Słońska and Misiuna [20] propose not to consider health a condition but rather a dynamic phenomenon, related to physical, mental, and social human capabilities, resulting from the responses to internal and external (environmental) changes. As far as the term positive health is concerned it is related rather to development of man's potential instead of merely coping with various situations. Therefore, the characteristics of positive health include such elements as self-fulfillment and ability to live actively and to be creative.

The above multi-dimensionality must be taken into consideration by young people leading a healthy and physically active lifestyle. Perhaps the most important condition of creativity in the process of achieving, maintenance and loss of health is development of social emotions and bonds. As a determinant of a new direction of a systematic approach to generating appropriate conditions decisive for positive health the salutogenetic paradigm proposed by Antonovsky [1] might be considered. Antonovsky considers the sense of coherence as one of decisive factors of man's health level. It should be defined as man's global orientation expressing the degree of predominating, reliable, and dynamic certainty that: 1) impulses incoming during the life from the internal and external environment are of structured, predictable, and explainable character; 2) resources are available that enable challenging the requirements imposed by the impulses; 3) requirements make a challenge that is worthy of the effort and

engagement. In such a case man is able to create a situation by his/her behaviour, and in response to this situation, adapt his/her thinking, emotional reactions, and patterns of behavior accordingly. In this sense, Antonovsky states that the process of attitude development becomes of key importance, being a result of formulation of dynamic human interactions with the environment, providing the sense and direction to his/her actions. Reinforcing (or even modeling of) such a process may be performed by providing appropriate knowledge, i.e. accentuating the cognitive component of the attitude. This may also be achieved by developing inclinations to undertaking some desired actions, i.e. providing the conditions for development of behavioural components. Two components mentioned above are similar to the sense of meaningfulness and manageability, presented in Antonovsky's theory. Nevertheless, it seems that the durability of attitudes may be conditioned chiefly by the emotional component of the attitude (the sense of sensibleness according to Antonovsky), expressed by the relation (valence) to the subject of the attitude. Therefore, we wanted to pay attention in our work to the need of consideration of the influence and possibility for the use of various social factors while programming the activity of health education among young people, particularly in an interdisciplinary approach (setting approach), in which the meaning of emotional-motivation factors for formation of young people's behaviour is considered to be highly important.

## METHODS

The study was carried out on a sample of 198 boys and 214 girls at the age of 13. The SOC-13 Inquiry Sheet was used for the examination, that was developed and verified in the Polish version by the team composed of Zwoliński, Jelonkiewicz, Konińska-Dec [22]. The questionnaire sheet included 13 items in the form of interrogative sentences. Each item was assigned a five-degree Likert's scale [14]. According to the theoretical framework of the salutogenesis concept, the model of the sense of coherence is composed of three elements. Therefore, four of the 13 questions were related to the sense of manageability (SOC-Ma) and four others to the sense of comprehensibility (SOC-Co). The other five questions were related to the sense of meaningfulness (SOC-Me). The questions were randomly arranged. The final result was calculated as a sum of points obtained in particular items. The minimal number of points amounted to 13, the maximal to 65. The higher the result, the higher the sense of coherence. The factor of strong sense of coherence was declared by the belief of the interrogated person [22] that:

1. The lack of interest in things that take place around never happens.
2. He/she is never surprised by the behaviour of the people he/she knows.
3. He/she has never been deceived by the people he/she relies on.
4. Most of the things to be done in the future will be fascinating.

**Table 1.** Comparison of the mean values of total sense of coherence (*SOC-Total*) and sense of manageability (*SOC-Ma*), sense of meaningfulness (*SOC-Me*), sense of comprehensibility (*SOC-Co*) with the answers to the question of responsibility for health in 13-year-old youth.

Level of responsibility for health	N		%		SOC-Total (points)		SOC-Ma (points)		SOC-Me (points)		SOC-Co (points)	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Irresponsibility	48	22.4	71	35.8	47.8	46.8	14.6	14.7	15.2	14.1	17.9	17.9
Self-control	45	21.0	38	19.2	46.2	47.3	14.3	14.9	14.4	14.4	17.5	17.9
Involvement	17	7.9	18	9.1	48.2	48.4	14.2	15.0	15.4	14.7	18.6	18.6
Self-responsibility	99	46.3	65	32.8	46.5	47.6	14.3	14.4	14.4	14.9	17.8	18.2
Caring about oneself and others	5	2.4	6	3.1	45.6	45.0	15.0	15.5	13.8	14.8	16.8	14.7
ANOVA	214	100	198	100	p=0.59	p=0.75	p=0.92	p=0.78	p=0.17	p=0.41	p=0.69	p=0.07

5. He/she never considers to be unfairly treated.
6. He/she never has an impression of being in an unknown situation and not knowing what to do.
7. He/she likes his/her every-day dealings.
8. It never happens that he/she does not understand his/her own feelings and thoughts.
9. He/she never experiences the feelings that he/she rather prefers not to have.
10. He/she never felt like a loser.
11. He/she never gets an impression of knowing what will happen.
12. He/she never gets an impression of a lack of sense of his/her every-day dealings.
13. He/she never experiences the feeling of losing control.

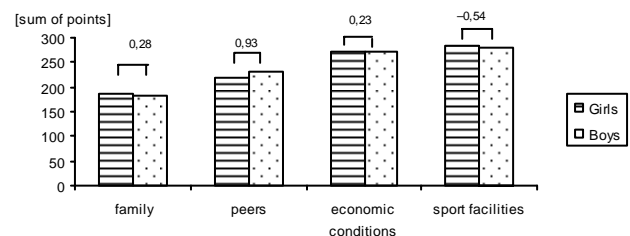
In order to make self-assessment of health, physical efficiency level, frequency of physical activity, and the sense of health responsibility the authors' own inquiry sheet of closed cafeteria type was used. It included closed questions with a choice of one of four possible answers. The hierarchy of social factors determining physical activity was defined in three sub-scales of environmental, educational and medial factors, respectively. Each factor was marked 1 to 4: 1 – the most important; 4 – the least important. The lower total of the points the more important the factor was for making decision about undertaking physical activity.

## RESULTS

Among the studied girls 46.3% of them considered themselves responsible for their health condition. The average value of total sense of coherence in the group of girls amounted to 46.5 points. The highest coherence level was manifested by girls who noted the connection between responsibility for health and their individual living conditions (48.2 points), while the lowest level was observed in girls considering that the responsibility for human health was the responsibility of the society (45.6 pts). The largest group of boys (35.8%) considered their parents the most responsible for their health. The group of those who believed that they were responsible themselves for their health was nearly the same size (32.8%). The levels of sense of coherence in them amounted to 46.8% and 47.6%, respectively. No statistically significant differences between particular groups were found in the components of coherence. Only in the case of meaningfulness in the group of boys a

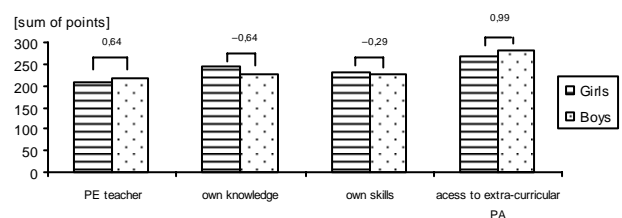
tendency of significance ( $p=0.07$ ) was found. The largest difference was observed between the groups that accentuated individual conditions of living (18.6 pts; 9.1%, and social responsibility (14.7 pts), although the latter group was decidedly smaller and made only 3.1% of the entire sample.

Among the social factors mentioned by the boys and girls as decisive for participation in various forms of physical activity the most important was the family and then the friends. Access to sports facilities appeared to be rather insignificant (Fig. 1).



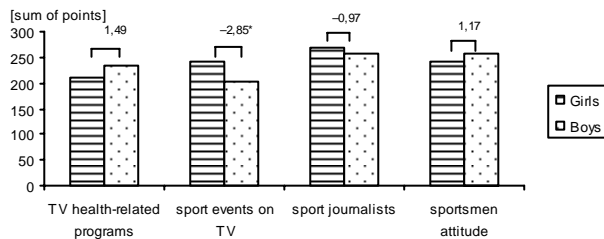
**Figure 1.** Ranking of social determinants of undertaking physical activity by 13-year olds

The girls under study pointed to their physical education teachers as the most important inspiration source for undertaking physical activity. Among the boys the P.E. teacher was also mentioned as an important motivation source; however, the differences with respect to the second factor, i.e. one's own knowledge, and the third one, i.e. skills, were quite small. The least significant factor behind undertaking physical activity was availability of extracurricular classes (Fig. 2).



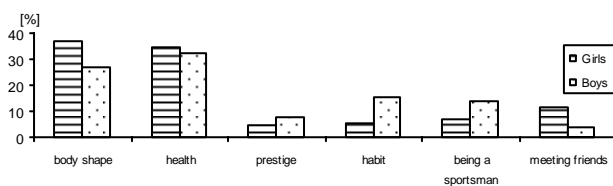
**Figure 2.** Ranking of educational determinants of undertaking physical activity by 13-year olds

In the case of 13-year-old girls TV programs devoted to health appeared to be a decisive medial factor behind undertaking the physical activity. On the other hand, the attitude of sports journalists had the lowest significance. Similarly, the attitude of athletes was also of little importance (Fig. 3).



**Figure 3.** Ranking of mass communication determinants in undertaking physical activity of 13-year olds

For the 13-year-old girls under study the most important motive for undertaking physical activity was the expected possibility of shaping one's own body (37.3%) and health quality (34.7%). In the case of boys the hierarchy was just the opposite: 32.6% undertook physical activity for health reasons, and 26.7% expected the body building qualities. The boys, more frequently than the girls, undertook physical activity, being motivated by their habits and the will of becoming athletes in the future. For the girls the possibility of meeting their coevals was of higher importance (Fig. 4).



**Figure 4.** Reasons for undertaking physical activity by 13-year-old girls and boys [%]

## DISCUSSION

Social changes demand adjustments in educational systems and strategies of great flexibility and interchangeability, while growing concerns for environmental protection call rather

for more collective than individual efforts, more collaboration than competition. Most recent health intervention programs have been based on physiological and behavioral changes; however, societal factors are becoming more significant to the community as a whole (setting approach) with physical activity integrated into normal daily living. Marcus and Sallis [13] believe that physical activity interventions should be most effective when they target the following determinants in youth:

- enhancement of enjoyment of physical activity,
- encouragement of perception of competence at physical activity,
- increasing intentions to be active,
- reduction of perceived barriers,
- enhancement of social support,
- increasing time spent outdoors.

Increasing social demand for life-skills education calls for finding ways of transforming physical activity and health education into a “sustainable development” related subject. According to Lake et al. [11, p. 474], “while active living by definition is concerned with the maintenance of activity behaviors across the life span, the addition of the word “sustainable” serves to emphasize environmental influences on our physical activity behaviors as well as the environmental implications of those behaviors.”

The separation of three groups of determining factors in our study enabled analysis of their hierarchies in particular subscales. The family and the physical education teacher are the most important determinants of undertaking physical activity, both by the girls and boys. The analysis of coherence has shown that most of the girls, i.e. 46.3%, considered themselves to be the most important decision makers about their health; 22% regarded their own parents, and 21% their schools. Among the boys the largest group, i.e. 35.8%, considered their parents to play a decisive role in development of responsibility and care of health of their children; 32.8% considered themselves to be the most important decision-makers about their health condition.

Among the research devoted to the similar topic the study by Žizka-Salamon and Winiarski [23] is worth noting. They indicate that the body values considered by young people most important, i.e. health – 31.8%, esthetic – 23.0%, and hedonistic – 22.3%, are the most frequently implemented ones. In other studies related to motivation of undertaking physical activity, the

boys stressed more the need of availability of sports facilities. An important role in motivation was also played by the mass media. On the other hand, Szeklicki [21] showed that boys pointed to their needs of victory, sports successes, and meeting colleagues, while in girls more important factors were a possibility of improving health, good appearance, the joy of one's own body control, and entertainment. Our study showed that with growing age the meaning of sports successes and victory as motives for undertaking physical activity decreased. Similarly, the will to satisfy parents was also of lower significance.

According to the above findings, the introduction of the salutogenetic model to health-related studies enable researchers to focus not only on the conditions of epidemiology and development of various diseases but also on the conditions conducive to the sustainable *positive health*. Antonovsky's assumption [1] that development of a strong sense of coherence is highly affected by participation of the person in making decisions, balancing the over- and under-load, and coherence of experiences [8], shows that the school, while effecting a traditional education program (inclusive of physical education), does not sufficiently promote meaningfulness, comprehensibility, and manageability in physical activities of young people. This, in consequence, leads to a moderate level of the general sense of coherence and, at the same time, to a limited interest in health problems. Taking into account low meaningfulness, it results in a lack of regularity in independent undertaking physical activity in leisure time. The lack of expected internal standards of health behavior is, according to Bandura's social cognitive theory related to the self-efficacy theory, as a result of weak social influence, the lack of social reaction aimed at assessing the behaviour of an individual, and failure to make use of the conclusions derived from observation of the behaviour of other persons [15].

In the light of the above results particular importance should be assigned to the realization of the idea of personalism, consisting in subjectiveness of a pupil to school physical education. According to the idea every pupil should enjoy a possibility of developing individual psychophysical predispositions [6, 7, 17]. Nevertheless, to develop educational prerequisites in this sphere a re-evaluation of the teaching-learning process is required, aimed at shaping personality, which might then

lead to improving efficiency and skills. For such definition of health attitude an interdisciplinary approach is necessary, which takes into account the contents and possibility of various school lessons. Moreover, it should be remembered that the socialization role is, or may be, played in this process by some additional factors (family, coevals, availability of facilities, TV programs devoted to health, or contacts with athletes) and their proper use, in accordance with the setting approach. Formulation of school (and after-school) programs integrated with the local community and strengthening the individual and social potential of individuals in the community are the main assumptions of the Health Promotion Schools. The approach "from the people to the problem" is of important significance, allowing identification of individual problems and undertaking actions aimed at their solution.

In the case of school one needs to ask a question: What can possibly make physical education a sustainable subject? Would lifetime sports (and sport education models) serve as some sorts of measures of conveyance? Or may it be health education itself? Perhaps experience-based learning could become one of the options in schools and community-based settings.

A better understanding of determinants of youth activity will help develop effective intervention programs of sustainable activity, from childhood into active adulthood until the elderly age, and thus minimize the risk of sedentary life style. The challenge for educators is to develop and successfully implement interventions that actually make those changes, having in mind interactive experienced-based teaching and learning approach in school education and setting approach in community-based life. Some argue to shift physical education away from an activity-based toward a theme-based curriculum, reflecting the dilemmas and new issues society faces at present [18].

Only such a versatile and subjective approach to a young individual can effectively contribute to the development of one's own permanent readiness to adopt health habits even without immediate systematic strengthening.

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