The role of higher education in health improvement to contribute to student life quality.
The development of a model program at the University of Pannonia

Abstract of PhD thesis

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Introduction

In public education, conveyance of knowledge about preservation and improvement of heath is guaranteed by law (Act No. LXXIX of 2003). In spite of this, most students in higher education possess a very limited knowledge on the subject, sufficient only for mere repetition. The consequence of this can clearly be observed in the students' life-coaching, as even regular physical activity, one of the fundamental factors of "health-preserving attitude", is present in the everyday life of only a low percent of students.

Resolving the diagnosed problem is in the best interest of the whole society. As a special social group, students – as result of their qualifications – are going to become example-setting, opinion-shaper agents.

Numerous researches focusing on the quality of life of the above-mentioned sector of society investigate mainly its condition or, from a sport scientific approach, its physical fitness. Results support the unequivocal headway of health-threatening inactivity. The scientifically proven, adequate response lies in providing exercise programs for improving physical fitness. However, questions essential with respect to long-term effectiveness are yet to be answered by the world of science: how can a student be made aware of the importance of regular exercise; how can they become independent in improving their own health? Attempts or answers in everyday life have not been discovered yet. My dissertation aims at providing response for the questions raised.

The research area – in connection with higher education – covered in my study can be easily defined within the conceptual structure of health (figure 1).

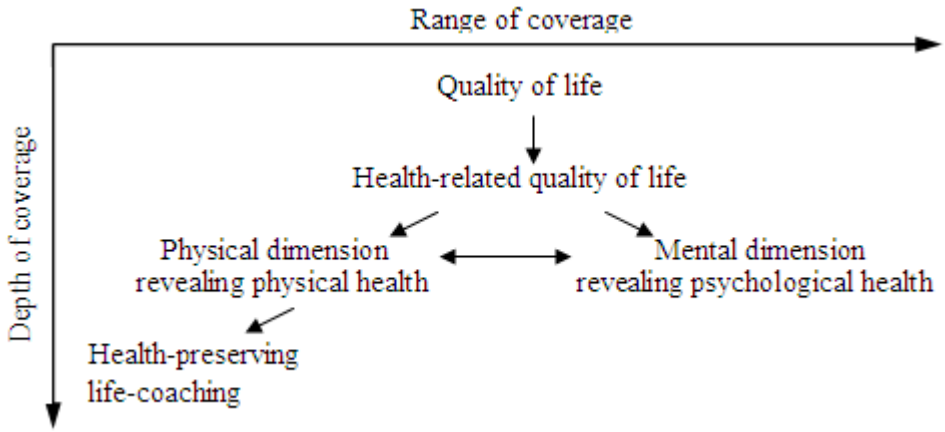

Figure 1: Area of quality of life observed in higher education

1. Objectives

The dissertation aims at revealing ways of making students recognize the importance of regular exercise as essential factor in health-preserving life-coaching, and getting them to include it in their life-coaching. Accordingly, the subject of my doctoral dissertation is the quality of life of students in higher education as affected by health-conscious attitude, as well as its investigation and consequent improvement.

It is realized through a longitudinal study, the aim of which is the evaluation of the effectiveness of a higher educational course I have designed to resolve the conflict emerging in the field of health-preserving life-coaching, primarily observed in physical inactivity, in regard to value-objectivity.

There are three sub-fields if my research:

- analysis of students' indicators of quality of life,
- development of a course based on the assessed needs,
- verification of the effectiveness of the course.

Hypotheses

H_1 It is assumed that the students' health-related quality of life indicators show deficiency as compared to the nationwide (Hungarostudy 2002 – age group) average, thus the role of higher education in improving health is well-founded.

H_2 It is further assumed that a course aiming at students' health promotion can be founded through an action research based on continuous reflection, which in turn strengthens everyday health promoting life-coaching. Such a course could be included in the curriculum as a C-type course, available to all students.

H_3 The effectiveness of the course can be evaluated along the following dimensions:

- realistic determination of individual target fitness,
- conveying knowledge that aids reaching the target,
- health-preserving life-coaching as realized in practice.

3. Methods

The theoretical frame for the study revealing the quality of life of the target group dealt with in my research was provided by the Hungarostudy research carried out at an overall social level, coordinated by Mária Kopp. I intended to support the validity of the results of my primarily qualitative study by applying the triangulation method.

In the first part of the longitudinal study, those factors providing quality foundations to everyday life-coaching had to be introduced that constituted an undertakeable aim in health education through their potential regulation and improvement. The assessment underlying the syllabus of the course to be developed – which in turn could be considered a targeted fundamental research – was carried out via survey method with University of Pannonia students. The assessment lasted through the 4^{th} and 5^{th} weeks of the spring semester of 2009, with 479 participants.

The action research, based on the results of the fundamental research, aimed at presenting the area of health promotion undertakeable by higher education in the form of a course fitting well within the structure of university education. This is a primarily qualitative method based on continuous and cyclic self-refection, which evaluates and treats each participant of the studying-teaching process as competent parts of the research.

In order to support the effectiveness of the course, I gave the same questionnaire used in the first phase of the research to the students applied for the course at the beginning of the semester and, as a control, at the end of the semester. Throughout the action research, one of the reflection-studies facilitating the evaluation was a student satisfaction questionnaire, the results of which provided measurability for the influence of the course on individual motivation, realistic kilter-assessment and the executability of the subsequently developed fitness program. Further analysis was needed to prove that the registered changes can actually be considered the effects of the course. Deeper correlations, the actual source of expected expansion of knowledge and the long-term effects of the information passed on were revealed via a monitoring study, more specifically, depth interview.

Until 2013, the number of students participating in the training, also constituting the population in the study of the effectiveness of the course, was 98, out of which 86 participated in the control-studies.

For statistic analyses, the 18.0 version of the SPSS was used (SPSS Inc., Chicago, IL, USA).

4. Results

The results of the research investigating indicators of students' quality of life

Students' quality of life is weakened by numerous risk-factors in physical health as well as in psychological health within the respective dimensions. It further has to be noted that female students are in disadvantage regarding many factors, and there are considerable differences between the faculties.

A lean hierarchy of the studied variables influencing quality of life has been revealed through application of factor analysis. Based on this, the most determining factor of health-related quality of life of students in higher education is *health-preserving life-coaching as put into practice*. The second factor is the *mental dimension revealing psychological health*; while the third one identifies the repetitive consciousness of health that is not necessarily connected to practice (eg. "we know exercising twice a week is important from the aspect of health, but it still does not get realized in our everyday life"). The fourth factor is the *health-risk attitude*. The fact that its components did not occur in the first factor in negative sense shows that certain health influencing attitudes stem from different kinds of motivation. The fifth factor is the *subjective evaluation of condition of health*.

The result of the development of the course

The diagnosis was based on the study of students' health-related quality of life carried out via survey method, the result of which has been provided.

Besides the revealed condition of the participating students, the action plan was also affected by which field of health promotion higher education would have realistic chances of an effectual role. The improvement of the most considerably influential factor regarding health-related quality of life indicated by the factor analysis (health-preserving life-coaching) is an undertakeable aim through training. This provided a reason for developing the following course: improving students' health by determining realistic target fitness based on objectively assessed kilter, then implementing and

achieving it in practice. The protocol serving as a model for the course syllabus was the process of including the individual into the fitness program via personal trainer.

The action, that is the course, was introduced and conducted with the coordination of the Institute of Physical Education and Sports at the University of Pannonia. The first active semester started in the academic year of 2010/11. The lecture including 15 sessions was available for all, except first-grade students. Since then, based on the interpretation and evaluation of reflections, I have found the following changes necessary and well-founded:

- The limit of participants has been set to 15 students.
- The number of sessions has doubled by 15 hours of practice.
- The syllabus has been continuously extended and modified for better understanding.
- As of the fall semester of academic year 2012/13, the course has been offered separately for male and female students.

One of the built-in control was a continuous monitoring throughout the course. The results of it can be summarized as follows:

- It can be deduced that motivation strengthens by the transferred knowledge gaining personal relevance.
- At the beginning of the course, seminars generate more interest and activity than the lectures. Accordingly, the knowledge transferred has to be reinforced on a practical level.
- Students do not spare "studying time" for acquiring knowledge, thus it has to be ingrained through practical realization.
- "Natural" erroneous information and faulty stereotypes about health-preserving life-coaching, since they aim at realizing intrinsic objectives, have to be handled with due foresight. Based on my experience, their effectual correction depends on the confidence in the instructor and the credibility he or she gains.
- Divergent target fitness stemming from individual diversity result in different interests. Correspondence to this is only possible if the group consists of a limited number of students and is homogenous with respect to interest, life-style and quality of life.

Regarding health promotion, it was of special importance to unfold what students think about the course in point of motivation and applicability of knowledge in practice. The student satisfaction questionnaire given at the end of the course also evaluated the effectiveness of the course; therefore its results will be presented along with the assessment of the third part of the research.

Individual consultations served the purpose of students elaborating on the completability of the course, possible shortcomings, and also their individual expectations. Conclusions from these consultations further supported the need for adjustment of knowledge to the individual, as well as for the instructor's credibility, guidance and openness.

The results of the research stage evaluating the effectiveness of the course

Despite the positive shift observed in the quality of life and consciousness of health of the students participating in the course, there are still deficiencies diagnosed with respect to the student body in its entirety, which supports the relevance of the course developed in the frames of the action research in the case of spontaneously formed groups as well.

Comparison of the level of health-related quality of life and consciousness of health before and after the course

The mean of the variables of the indicators of psychological and health-related quality of life showed a positive shift. The level of significance of the shift, did not once exceed the critical threshold expected in case of pedagogical researches ($p < 0,05$).

A steady improvement can be prognosticated in the students' consciousness of health and conscious grounding of planning of fitness; additionally, the range of aspects taken into consideration when doing sports also broadens.

Evaluation of consciousness of health focused on the ability of identifying components of condition and their health-related assessment. It can be concluded that the importance of flexibility and strength advances on the students' scale of values, meanwhile health-related assessment of physical abilities levels off.

The set of questions focusing on consciousness of improving physical fitness investigated the adequate interpretation of physiological effects resulting from physical

activity and whether they are of planned intensity. Upon completion of the course, this area showed the most considerable improvement.

By the end of the course, exercises – adjusted to target fitness – chosen and practiced by the students showed higher coverage of conditional capabilities than at the beginning of the course.

A positive change could be observed in the number of aspects factored in when choosing the elements of physical activity. Taking into consideration the kilter and health-related needs of the individual, as well as the expected physical effects and the environmental factors can prove to enhance the students' aspect-sytem.

Evaluation of students' opinion of the course

According to the results of the control questionnaire, kilter assessment and evaluation based on the comprehensive fitness test considerably changed the concept about physical fitness of 73.3% of the students. 86.1% of them reported increasing calling in improving their kilter. Expansion of knowledge resulted in 73.2% of students having to re-evaluate their former target fitness. 96.5% of students claimed that the acquired knowledge facilitates achieving goals. 98.9% considered the course to be adequate for transmitting knowledge conducive to improving fitness.

Evaluation of the long-term effects of the course

The partly structured interview included four sets of questions: it investigated the changes in life-coaching, consciousness of health and motivation, and it also examined the overall effects of the course. The results are introduced along these lines.

91.7% of the interviewees reported change in their life-coaching as a result of the course, which primarily manifests in more regular and consciously planned exercise and healthier nutrition. Two-thirds of them uses – sometimes as a basis – the workout routine that had to be prepared during the course adjusted to the individual's kilter and target fitness. All students, except for two, consider the knowledge with which they can update their plans to be active. For this, their notes, academic literature or, in case of those maintaining student status, even the faculty of the university may provide further help.

Regarding fitness based on consciousness of health, the majority (91.7%) reported positive improvement which 79.1% ascribes to the course. For those already involved in

the topic of pursuing healthy life-style, the course had a guiding, confirming and systemizing effect.

During the course, more than half of the students used other sources as well for deepening their knowledge, mainly limited to information found on the World Wide Web. With one exception, all interviewees reported that the knowledge transmitted during the course served as a filter when interpreting and taking in the assigned literature.

Each interviewed student claimed to have become more motivated in realizing a healthier and more active life-style. For 33.3% of them, the strongest inspiration proved to be improving their quality of life. Further one-third reported it to be a sense of achievement to have the knowledge that guarantees designable and individualized, therefore efficient exercise plan. Overcoming previously conceived individual limits and opportunity for competition provide further motivation.

The last question of the interview was intended to unfold the overall effect the course had on the student. There were no guideline questions given in hope that interviewees would emphasize what the most appealing segment of the course was for them. Most of the responses included the aspect that through credible professionals, the course provided a good basis for individual realization of a healthy life-style.

5. Discussion and conclusion

The idea about a course enhancing consciousness of health presented itself years ago. These days, however, when the practice of everyday physical education classes has been introduced to public education, and thus the need for a law to introduce it also in higher education has gained special timeliness. Based on my experience, limitless expansion of access to all kinds of sports is not sufficient to compensate for pathological inactivity. It is also necessary to improve one's capability to make an individualized choice from the range of possibilities.

It is not novelty for sports institutes and departments without independent faculty to take role in academic education. The educational system makes it possible for sports science to represent itself among institute subjects. There are several instances for theoretical foundations of recreational sports. The novelty of my research lies in the fact that the development of the course was scientifically founded, hoping that the training

system would be officially accepted and applied by institutes. Therefore it is not just about repetitive use of knowledge of sports science, but rather its adaptation to a specific target group with a defined purpose.

The subject of my doctoral research was the quality of life of students in higher education influenced by health-conscious attitude, the study of which provided a basis for the action research yielding the form of program guaranteeing the result.

In the following, the hypotheses defining the research will be presented, then in light of the results, I will put forth my innovative suggestions.

Verifying the hypotheses

My first hypothesis (H_1), according to which students' health-related quality of life indicators show deficiency as compared to the nationwide (age-group) average, has been proven valid. "The most important demographic factors of condition of health are age and level of education." From this respect, the students are without doubt in a favorable position compared to the Hungarian population studied by Hungarostudy. This "protective factor", however, is not sufficient to ensure quality life in the long run, or to compensate for the impact of physical inactivity considered to be a serious factor of mortality.

My second hypothesis (H_2), which states that a course – fitting within the structure of university education – aiming at students' health promotion can be founded through an action research based on continuous reflection, has similarly been confirmed. The developed program is offered in the curriculum at the University of Pannonia as a C-type (optional) course, for male and female students separately. In order to provide efficient help in achieving individual fitness target, the number of participants has been set to 15 students.

My third hypothesis (H_3), according to which the effectiveness of the course can be evaluated through realistic determination of individual target fitness, conveying knowledge that aids reaching the target, and health-preserving life-coaching as realized in practice, has also been substantiated. This can be observed in the considerable improvement of consciousness of health which shaped the inner need for conscious planning and also the motivation that can be maintained in the long-run. The course, not

as a single source but as a decisive guiding factor, contributed to the prognosticated improvement.

Recommendations

I consider it necessary to re-evaluate the role of higher education in health promotion. I recommend that the institutes be allowed to define their strategies in line with local characteristics.

The course proven by my research to be suitable for successful knowledge transmission is hereby proposed as a potential alternative for expanding the role of higher education in health promotion.

Own publications

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