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The low educated employees towards health – challenges for health education

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Elżbieta Korzeniowska, Krzysztof Puchalski, Eliza Goszczyńska, Jacek Pyżalski, Patrycja Wojtaszczyk

1. Contractors, objectives and tasks of the project

The project called *„Strengthening transversal competences of low educated employees concerning their health choices in the context of changing labour market"* (the acronym: LEECH) is an international research and implementation project carried out simultaneously in four EU Member States: Spain (ES), Latvia (LV), Poland (PL) and Slovenia (SI) since December 2008 until February 2011 within the Grundtvig sub-programme, the *Life Long Learning* Programme. Its coordinator was the National Centre for Health Promotion at Work of Nofer Institute of Occupational Medicine (Poland) while other partner institutions are: *Instituto Valenciano De Atención a Los Disapacitados (Valencian Institute of Care of Disabled People), Klinični center Ljubljana, Klinični inštitut za medicino dela, prometa in športa (University Medical Centre, Clinical Institute of Occupational, Traffic and Sports Medicine), Rīgas Stradiņa Universitātes Darba un Vides Veselības Institūts (Institute of Occupational and Environmental Health of Riga Stradins University).*

The reason for such a project derived from the results of social surveys, conducted in different European countries, which show the connection between better health or more favourable healthy behaviour and higher level of education. In other words, the lower the socio-economic status (especially educational one), the statistically worse healthy behaviours, motivation for lifestyle changes and thus health itself. Such a situation generates high costs, including those related to health care and social assistance for people with low education status, for both the state and people themselves because of their limited ability to work and reduced competitiveness in the labour market. Thus, a reduction of inequalities in health among working populations with high and low education levels is such an important challenge. A creation and implementation of a specific strategy for health education and health promotion tailored to the needs of people with low education status is an effective method for improving health status, healthy behaviours and social inclusion of this group. However, practice shows that most programmes of this type are addressed to the general public and do not take into account the specificity of this target group, paradoxically contributing to a deepening of inequalities in health.

Therefore, the main aim of the LEECH project was a development of recommendations for health education and health promotion which result from specific needs and abilities of low educated employees. In other words, the very project was designed to increase the efficiency of actions aimed at encouraging people with low education status to an implementation of a healthy lifestyle that improves their health and occupational activity. Due to the fact that it is a question of competences useful in various areas of life, both at work and in personal lives of people, what is involved here is called „transversal competences".

Achievement of this objective required actions in two target groups: a) direct customers, i.e. people having the possibility of health education of employees with low education level and b) ultimate customers, that is precisely this kind of employees, who are known in the project as LEE (low educated employees).

As for the carried out measures their list was as follows:

1. *Identification of specific ways of perception of health and its determinants, level of knowledge and beliefs of LEE regarding their personal healthy behaviours and health choices (including one made at work), as well as their preferences in terms of content, methods and trainers of health education.*

This task was realised by carrying out at the turn of the fourth quarter of 2009 and the first quarter of 2010 interviews with 1691 people with the status of an employee (approximately 400 respondents in each of four countries participating in the project). The implementation team has developed such selection criteria of a sample as to best identify a specificity of LEE in comparison to groups with high education status. Therefore, the respondents were divided into a target group, i.e. people with low education status, namely with incomplete primary, primary, lower secondary and basic vocational education (levels 0-2 and 3C according to ISCED 1997)[1], and a control group - people with high level of education, namely with secondary (both general and vocational) or tertiary education (levels 3A-B and 4-6 according to ISCED 1997)[2]. In order to obtain a "clean" sample of LEE, a condition was made that the target group can not include people with primary or basic vocational education who continue their education at a secondary level. The respondents were aged 25-54 (both the control group and the target group consisted in 1/3 of the following age groups: 25-34, 35-44 and 45-54). They were chosen from employees in various fields of business and residents of both cities (big and small) and rural areas.

The study was carried out on the basis of an interview's questionnaire which was developed by partner institutions. In order to ensure the highest possible relevance of its questions to ways of perceiving the topic in both groups surveyed, one of important stages of its development was carrying out the pilot survey among people who met the selection criteria of the sample.

2. *Summary of existing and formulation of further recommendations on effective methods of health education for LEE (especially in terms of content, appropriate strategies and methods of education).*

Existing recommendations were gathered by partner institutions by browsing national and international literature in this field. Further recommendations were based on the results of the LEE survey realised within the project.

3. *Identification/ characteristics of educational systems available in each partner country for working adults (i.e. existing mechanisms, institutions and forms of possible trainings) that could be used there to implement health education among LEE.*

Existing national systems were browsed by experts from partner institutions. Thanks to this, there were recognised customers who primarily could benefit from effects of the implementation of the LEECH project.

4. *Preparation of monographs for health educators on effective ways stimulating LEE to implement healthy lifestyles.*

An important element assuring a quality of the monograph was a pilot survey of its preliminary version among the representatives of the target group, as well as its scientific review. This book was published in four languages: English, Latvian, Polish and Slovenian, both in paper and electronic version (on-line version is available form websites of partner institutions).

5. *Training a group of about 120 health educators in four partner countries in the field of appropriate strategies for health education and health promotion directed to LEE and ways of transferring the competences to groups of people interested in this topic (the cascade training).*

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[1] It stands for the *International Standard Classification of Education*. It was created as to present statistics of education both within individual countries and internationally. The latest version was approved during the 29th Conference of UNESCO in November 1997. It distinguishes seven levels of education: 0, 1, 2, 3, 4, 5, 6, where 0 is *pre-primary education*, level 1 – *primary education*, level 2 - *lower secondary education*, level 3 - *(upper) secondary education*, level 4 - *post-secondary non-tertiary education*, level 5 - *first stage of tertiary education*, level 6 - *second stage of tertiary education*. In some of them one may distinguish sub-levels. An example could be level 3, which may be divided into 3A (that entitles to acquire skills at the level 5A), 3B (which enables education at the level 5B) and 3C (that does not give a possibility of a direct continuation of an education at the level 5, but involves acquisition of basic qualifications and thus leads directly to the labour market). (Source: http://www.uis.unesco.org/TEMPLATE/pdf/isced/ISCED_A.pdf).

[2] Such a 400-people group consisted in each participating country of ca. 200 representatives of the control group and ca. 200 people meeting the criteria of the target group.

The project developed the content of such a course which is available from websites of partner institutions. The pilot training was carried out in the fourth quarter of 2010 in all countries participating in the LEECH project.

6. *Dissemination of the project results (i.e. monographs and recommended content of training) among representatives of the target group.*

A main and permanent tool for a dissemination of the book's and course's content are websites of partner institutions. The paper version of the manual was distributed to the key organisations/ institutions active in the European Union countries and the European Economic Area in the field of health promotion, health education, adult education, social responsibility of companies and others functioning between the spheres of health and work. Moreover, data collected thanks to the project was published in scientific articles and presentations from scientific conferences.

2. Project assumptions

As mentioned above, the LEECH project was aimed at improving competences of low educated employees, helping them behave in a healthy way (and thus function better in the labour market thanks to better health) through actions of health education and health promotion. It was assumed that when it comes to competences it is taken into account a wide range of behaviours, including a lifestyle, with a proven impact on human health (diet, physical activity and recreation, tobacco and alcohol consumption) and not only self treatment or use of services of health care system.

It was assumed that the competences in favour of healthy behaviours may be improved by health education and health promotion undertaken in campaigns for a general population and its separate groups, as well as intervention programmes prepared for the needs of each company. It was considered that the best place to implement these actions are the companies themselves, as they may instantly make use of existing procedures for employees' qualification, conditions of infrastructure, availability of customers, etc. Hence, much attention was paid to interventions in companies.

As for the subject which health education and health promotion affect, in the LEECH project one focused on issues connected with shaping healthy behaviours, ignoring, at the same time, other often undertaken issues such as knowledge of diseases of civilisation, functioning of health care system, patient rights, etc. Therefore, so profiled education and health promotion were the basis for the conceptualisation of the study and formulation of suggestions or recommendations.

Classic health education and health promotion are accused of being unsuited to the needs of people with different levels of education. As a result, health activities are inefficient in reaching groups with low status and enhance the gap between the groups, rather than bridge it. Such activities are not well understood by the low educated customer and, therefore, do not stimulate healthy behaviours (while better educated employees often make use of this knowledge). Hence, reasons for this state of affairs were looked for. To this end, a reference was made to the results of the survey (performed both before and during the project) that were to show whether, and if so what, there are the differences between two groups of employees, and what is the specificity of low educated customers as the recipients of health education and health promotion. Analysis of this kind was conducted in two dimensions: a) comparing low and better educated employees from all countries participating in the LEECH project and b) looking for differences within these groups at the level of each country.

There was also undertaken the problem of a differentiation within the target group which consists of low educated employees. In this case there was taken into account the issue of socio-cultural factors associated with the country of residence.

The adopted method of analysis was based on a classic model of communication which is made of three key components of communication: sender -> message (content and form) -> recipient. It was recognised that a key issue to improve educational health activities, (as they were effective and did not generate a marginalisation of a group of customers with low status) is an attempt to adjust both the content and actions of a sender (trainer) to the specificity or declared needs of this group. Distinguishing features of recipients with low status were identified mainly in the sphere of the content of their thinking on matters of health, preferences for educational activities, understanding of the concepts used in health messages, as well as ways of dealing with their health.

Because of the lack of a universal theory on healthy behaviours which includes all their diversity (including habits and purposeful activities, favourable or unfavourable to health, behaviours of diverse content, such as nutrition and medical check-ups), the inspiration was drawn from multiple theories and concepts on behaviour, their determinants and developments, as well as experiences of practitioners in health education and health promotion. They were collected into a synthetic model showing most important factors that influence healthy behaviours. The scope of the analysis on determinants of behaviour and efficacy of their development was, however, limited to the area which may affect health education and health promotion at work. Thus, there was abandoned the idea to deal with macroeconomic and political factors or cultural tradition, as well as objective state of health, temperament or personality factors.

3. Structure of the compilation

In this monograph an attention was brought primarily to a presentation of the results of first activity, aiming at identification of specific determinants of healthy behaviours of low educated employees. There were also presented suggestions and recommendations for practitioners involved in health education and health promotion, which was the goal of the second task. The monograph is the realisation of the fourth task and the element of tasks five and six of the LEECH project.

In first chapters of the monograph low education was presented as a social problem in the EU and a challenge for the EU policies. Another chapter presents a reflection on the determinants of healthy behaviours and organises a variety of factors influencing these behaviours. It describes these of the factors that may be a subject of influence in programmes of health education and health promotion and identifies possible strategies used in projects of this kind. Next chapter specifies the issue of methods of the educational influence on low educated employees on the basis of existing experience and analysis of this problem, mainly in the area of behaviours associated with disease. There is a lack of such arrangements for a healthy lifestyle. Further chapters present the results of the survey conducted within the LEECH project in a population of employees from four countries participating in the project. State of behaviours and health awareness or preferences of low educated employees for health education and health promotion were included here. The presentation ended with an indication of the recommendations, inclusion of which may contribute to an increased effectiveness of interventions in education and publicity undertaken for such a target group. In conclusion, findings about each of the countries, partners in the LEECH project, were presented.

2. Low education as a social problem in the European Union

Eliza Goszczyńska

1. Introduction

Low educational attainment is considered to be a significant barrier to personal and professional development and a considerable source of social inequalities (e.g. European Commission, 2009a). As it is shown in detail later in the hereby chapter, low educated people more often suffer from unemployment, unfavourable working conditions (including material ones), poverty, and consequently social exclusion. Objectively speaking, they should participate in various forms of lifelong learning in order to acquire or improve their professional qualifications and finally to increase their chances in the labour market, however, in practice, these individuals take advantage of them less often than well educated people, which makes disparities between them even greater. Not only worse functioning in a professional sphere, but also the problem of lower awareness, as well as worse health behaviours and health situation can be noticed in the discussed group which, as a result, constitutes a significant source of financial burdens for social care and health protection system. Moreover, due to the fact that low educational attainment is in many cases "inherited", i.e. it more often concerns children of low educated parents; it constitutes a sort of mark for future generations[1]. In addition, in literature (e.g. Commission on Social Determinants of Health, 2008; Grantham-McGregor et al, 2007) it is emphasized that unfavourable socio-economic situation of low educated groups is often transmitted from generation to generation (intergenerational transmission of disadvantage).

Therefore, low educated individuals should be an essential target group for the activities of social policy, education and promotion of health. Nevertheless, in reality this group rarely becomes an individual subject of interest especially of a political body, but also of social and scientific activities[2].

We pay attention to people of low education status, almost only because they constitute a significant part of all groups which are socially excluded – e.g. the unemployed, the poor, or the homeless, included in the so called „vulnerable group" (European Foundation for the Improvement of Living and Working Conditions, 2002), and they are the subject of supportive or remedial actions. But, we rarely think about

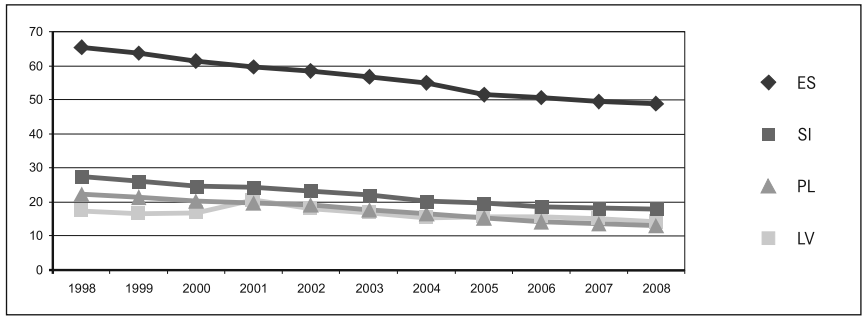
[1] Eurostat research (European Commission, 2008) done in all 27 Member States of the European Union (UE-27) shows that a link exists between parents' level of education and their children's attainments in this scope. For example, it turned out that in case of children (both daughters and sons) whose fathers have tertiary education, chances of acquiring the same level of education are significantly bigger than in case where a father has basic schooling – the odds ratio in this scope is 2 and more in all Member States of the Community. Whereas other data show that parents' aspirations in the scope of their children education depend on their level of education. For instance, according to the research of Public Opinion Research Centre (2009) done on a sample of 1094 adult citizens of Poland, while three fourth of parents with primary education would like their children to obtain higher level of education (75% respondents for their daughter and 73% for their son respectively), among parents with tertiary education almost all of them wish so (94% of parents for their daughter and 97% for son).

[2] The reports of European Foundation for the Improvement of Working and Living Conditions – Eurofund, can be an example here. They analyse the most up to date in a given period of time problems concerning people in employment. Ageing of this population or inequality in terms of sex constitute today an axis of the analysis significantly more often than inequalities arising from the level of education or qualifications.

solutions addressed directly to this group of people, which would constitute an element of prevention of social and health problems affecting them. This status quo may result, among others, from three issues. First, in many countries belonging to the European Union, which puts big pressure on the accomplishment of the Lisbon Strategy objectives and the Bologna Declaration assumptions, decrease in the number of low educated people in general population (data in this scope for four countries taking part in LEECH project are shown in Figures 1 and 2) has been observed for many years. Second, taking actions addressed only to the discussed group may be perceived as a sign of social stigma and consequently violation of political correctness principles. What is more, apart from the fact that from this point of view this community may not be a grateful object of actions, it is often not an easy subject of different types of undertakings too. Common motivational barriers in the discussed group and lack of positive experience in education can be examples of factors which strongly limit the use of lifelong learning by its representatives (Ministry of Economy and Labour, 2006).

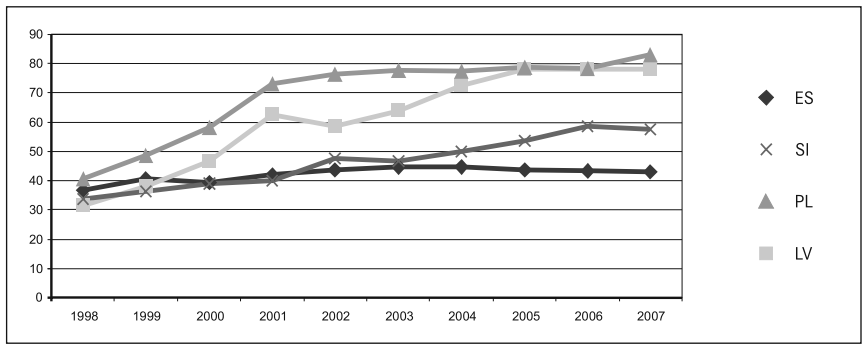
Because despite the existing obstacles this group requires actions adjusted to its needs, abilities and often preferences in the scope of social policy, education and promotion of health, the aim of the hereby chapter is an attempt to present its specificity in the context of taking advantage of different forms of lifelong learning, level of education and skills desirable in the contemporary labour market, possibilities of employment, methods of performed work, financial status, health behaviours patterns and health state, as well as satisfaction with professional and personal life. The main intention is to create a characteristic of the low educated (including employed) people in the entire European Union particularly taking into account four countries participating in the LEECH project. Thus, findings of the general European research – especially gathered by Eurostat and coordinated by Eurofund, were used in this chapter.

Figure 1. The proportion of population aged 25-64 with education level 0-2 according to ISCED 1997 in 1998-2008 (%).



(Self-reported data on the basis of Eurostat database:
http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database)

Figure 2. The proportion of population aged 20-29 with tertiary education (5-6 according to ISCED 1997) per 1 000 in 1998-2007.



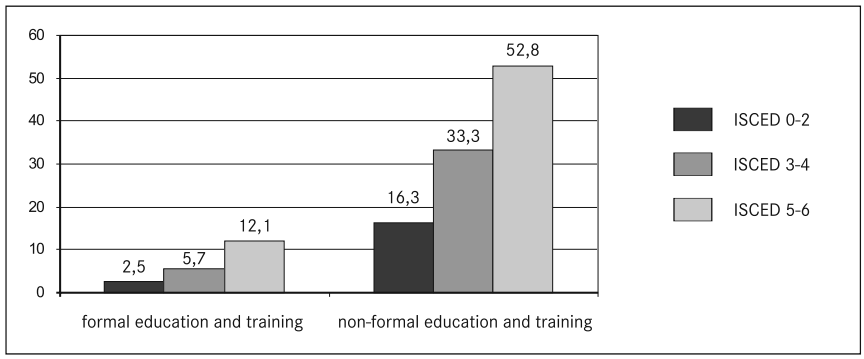
(Self-reported data on the basis of Eurostat database:
http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database)

2. Using various ways of acquiring/ improving knowledge and skills

It might seem that the characterized group should be particularly interested in various ways of acquiring or improving knowledge and skills in order to supplement deficiencies in this scope resulting from short lasting and often too general formal education (i.e. not leading to gaining a profession, which usually relates to individuals with education level 0-2 according to ISCED[3]). Meanwhile, a lot of research clearly indicates that using various types of education (both formal education and training[4] and non-formal education and training[5]) grows together with formal level of education.

For example, Adult Education Survey – AES carried out in the entire EU whose results are presented in Eurostat database, shows that in the EU on the average per every 5 individuals aged 25-64 with education level 0-2 according to ISCED 1997 only nearly one uses any form of formal and/or non-formal education and training[6] (18%), whereas per 5 respondents in groups with education level 3-4 and 5-6 according to ISCED 1997 it concerns respectively nearly two (36.3%) and three (58.8%) (Figure 3, table 1). Moreover, the results of the EU Labour Force Survey (LFS) one module of which related to adults lifelong learning[7] show that these trends remain steady regardless of the form of professional activity. The better level of formal education, the more often usage of various ways of acquiring/improving knowledge and skills by inhabitants of EU, no matter if they belong to active groups (including employed and unemployed) or professionally passive groups[8].

Figure 3. Participation rate of people aged 25-64 in formal or non-formal education and training by level of education (%), UE-27, 2007.



(Self-reported data on the basis of Eurostat database:
http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database)

[3] In this chapter education levels are described mainly with the usage of International Standard Classification of Education approved by the UNESCO General Conference at its 29th session in November 1997 – ISCED 1997. There are seven levels of education distinguished: 0, 1, 2, 3, 4, 5, 6 (level 0 – pre-primary education, level 1 – primary education, poziom 2 – lower secondary education, level 3 – (upper) secondary education, level 4 – post-secondary non-tertiary education, level 5 – first stage of tertiary education, level 6 – second stage of tertiary education).

[4] Formal education and training covers education in school system and is connected with systematic form of education. It takes place in accordance with approved teaching programmes. It results in acquiring qualifications confirmed by school report, school completion certificate, certificate, diploma (Central Statistical Office, 2009).

[5] Non-formal education and training covers all organized educational activities which do not correspond with school education definition, i.e. they are not provided by formal school institutions and thus do not change formal level of education. Participation in such training may result in getting a certificate or not. In research this type of education is distinguished from informal education, i.e. independent learning in order to gain knowledge or improve skills. Self-education unlike formal and non-formal education and training, in principle, takes place without a teacher, except organized forms of school and extramural education (Central Statistical Office, 2009).

[6] Those people were included in the statistics who took up any form of formal education and training in the period of four weeks before the study and non-formal education and training in the past 12 months before the interview.

[7] In this study a population of people aged 25-64 from the Member States of the European Union were taken into account.

[8] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database.

Table 1. Participation rate of people aged 25-64 in formal or non-formal education and training by level of education, 2007.

Country	Taking **formal** education and training by persons with education level (according to ISCED 1997)			Taking **non-formal** education and training by persons with education level (according to ISCED 1997)			Taking **formal and/or non-formal** education and training by persons with education level (according to ISCED 1997)[9]		
	0-2	**3-4**	**5-6**	**0-2**	**3-4**	**5-6**	**0-2**	**3-4**	**5-6**
UE-27	2.5%	5.7%	12.1%	16.3%	33.3%	52.8%	18.0%	36.3%	58.8%
ES	1.7%	6.6%	12.7%	15.8%	30.9%	43.9%	17.0%	35.5%	51.1%
LV	0.3%	2.8%	14.7%	11.0%	26.1%	53.0%	11.0%	27.2%	58.5%
PL	0.8%	3.4%	16.1%	4.0%	13.4%	46.4%	4.7%	15.8%	54.4%
SI	2.1%	8.9%	13.6%	10.9%	33.7%	63.4%	12.7%	39.0%	67.6%

(Self-reported data on the basis of Eurostat database:
http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database)

An interesting picture of adult lifelong learning is presented by the studies within the range and determinants of this phenomenon carried out by Organisation for Economic Co-operation and Development (OECD) over the last years[10]. They showed that together with formal level of education not only the percentage of people using various forms of education rises (e.g. O'Connell P.J., 1999; OECD, 2003a; OECD, 2005) but also the amount of time devoted to them increases (O'Connell P.J., 1999). In OECD publications, the reasons for these disproportions are searched for. Among others, such findings are indicated which show that well educated individuals are much more often aware of the benefits arising from the improvement of knowledge and skills or retraining, while low educated people quite often believe that qualifications acquired by them are sufficient (OECD, 2003a, Ministry of Economy and Labour, 2006). The lack of objective financial means is also mentioned here, as well as tendencies / will to increase lifelong learning costs (which is justified because private returns of investment in improving qualifications increase with education level) (OECD, 2003b; Ministry of Economy and Labour, 2006). In fact, one of OECD research (O'Connell P.J., 1999) confirms that the lower the education status, the rarer financial participation in this type of undertakings. Among the reasons for small engagement of the characterized group in lifelong learning, there are: its deficiencies in general qualifications (e.g. writing skill, reading comprehension, counting skill) which may constitute a significant objective barrier to using such an offer effectively, and educational failures in earlier learning stages which may result in difficulty of low educated individuals in finding themselves in the situation of a learning person (Ministry of Labour and Social Policy)[11]. Nevertheless, blame in the discussed scope is put not only on the discussed group but also on the suppliers of various forms of lifelong learning. Educational offer in this scope for low educated people is poorer than for groups of high educational status. Ministry of Economy and Labour (2006) gives here an example of employers who invest in employees with low qualifications only when they have no possibility to employ people with higher qualifications meeting the requirements of the company.

3. Knowledge and skills in demand in the labour market

Visibly less common possession of knowledge and skills which are in demand in the labour market and relatively rare participation in lifelong learning are natural consequences of low level of education acquired in formal education system. This diversification will be characterized in this chapter on the

[9] Data shown in the part of the table "taking formal and/or non-formal education and training..." are usually lower than the sum of percentages of people with a given level of education presented in the table as "taking formal education and training" and "taking non-formal education and training" because in the analysed period some of the respondents participated at the same time in both formal and non-formal education system.

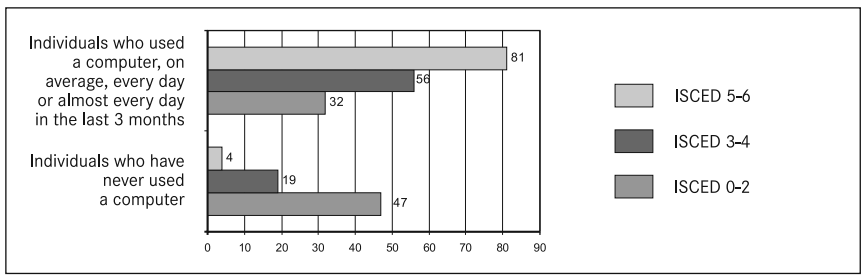
[10] These studies often went beyond the territory of Europe – some of them included societies of the USA, Canada, Mexico, Australia and even Korea, which shows the global character of the phenomena discussed here.

[11] Source: http://www.mpips.gov.pl/index.php?gid=505.

basis of skills related to a computer and the Internet. Such selection was made for two reasons: first, it is necessary due to the lack of possibility to discuss all range of professional skills in such a short study; second, it results from the fact that nowadays a lot of research (among others, as a result of quick progress of information technology and information society which has arisen because of it) concentrates on the evaluation of distribution of IT skills in population (e.g. Joling C., Kraan K., 2008; European Commission, 2010; Central Statistical Office, 2009; Batorski D., 2009).

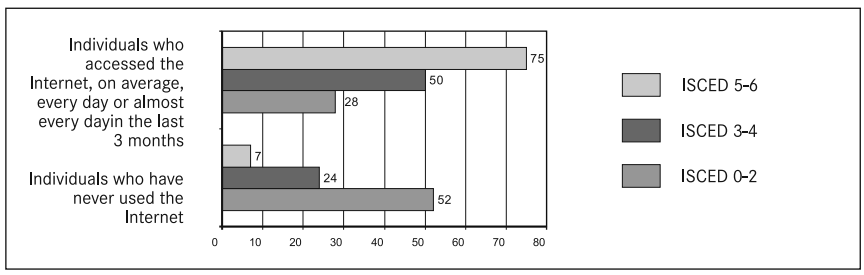
It turns out that individuals with low education level belong to one of the groups particularly affected by the so called digital divide which consists in their considerably smaller access to and rarer usage of computers and the Internet in comparison to well educated people. Figures 4 and 5 as well as tables 2 and 3 show data from 2009 presenting the results of research done annually in the European Community in the scope of using Information and Communications Technologies by persons aged 16-74. It appears that in the European Union about every second person on the average with education level 0-2 according to ISCED 1997 has never used a computer or the Internet whereas the lack of such experience concerns only a few percent of people with tertiary education. As for everyday usage of this type of technology, it concerns about every third/fourth person from the group with the lowest education level (0-2 level according to ISCED 1997) (32% in case of a computer and 28% – the Internet) and a vast majority of better educated people (5-6 according to ISCED 1997) (81% in case of a computer and 75% – the Internet). The discussed research also shows that the diversification of groups distinguished by education level also remains in case of the scope of skills connected with using ICT[12].

Figure 4. Diversification of experience of individuals aged 16-74 in using a computer by formal education level (%), EU-27, 2009.



(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/data/database)

Figure 5. Diversification of experience of individuals aged 16-74 in using the Internet by formal education level (%), EU-27, 2009.



(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/data/database)

Undoubtedly, nowadays when the ability to use ICT is often one of basic skills, technological progress may contribute to the fact that the characterized group falls behind, and at the same time it might increase differences between low and high educated individuals. Nevertheless, the problem is more serious, i.e. it goes beyond the sole issue of information technology skills. According to O'Connell (1999) the situation described in the hereby chapter that using various forms of acquiring/improving knowledge and skills in

[12] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/data/database.

different fields is inversely proportional to distribution of needs in this scope in the population, has influence on increasing inequalities on the labour market, and at the same time it contributes to social exclusion of the characterized group. Whereas, as research shows, even distribution of skills in a society has a significant positive influence on economic development of the country (OECD, 2005).

Table 2. Diversification of experience of individuals aged 16-74 in using a computer by formal education level, 2009.

Country	Individuals who do not have experience in using a computer with education level (according to ISCED 1997)			Using a computer every day or almost every day in the last three months before the survey by individuals with education level (according to ISCED 1997)		
	0-2	3-4	5-6	0-2	3-4	5-6
UE-27	47%	19%	4%	32%	56%	81%
ES	54%	11%	5%	21%	55%	75%
LV	43%	33%	9%	40%	40%	75%
PL	56%	35%	6%	32%	35%	77%
SI	54%	24%	3%	29%	48%	88%

(Self-reported data on the basis of Eurostat database:
http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/data/database)

Table 3. Diversification of experience of individuals aged 16-74 in using the Internet by formal education level, 2009.

Country	Individuals who do not have experience in using a computer with education level (according to ISCED 1997)			Using a computer every day or almost every day in the last three months before the survey by individuals with education level (according to ISCED 1997)		
	0-2	3-4	5-6	0-2	3-4	5-6
UE-27	52%	24%	7%	28%	50%	75%
ES	61%	16%	7%	18%	49%	69%
LV	44%	35%	11%	40%	39%	73%
PL	59%	41%	8%	29%	32%	74%
SI	58%	32%	6%	26%	43%	85%

(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/data/database)

4. A possibility of finding a job

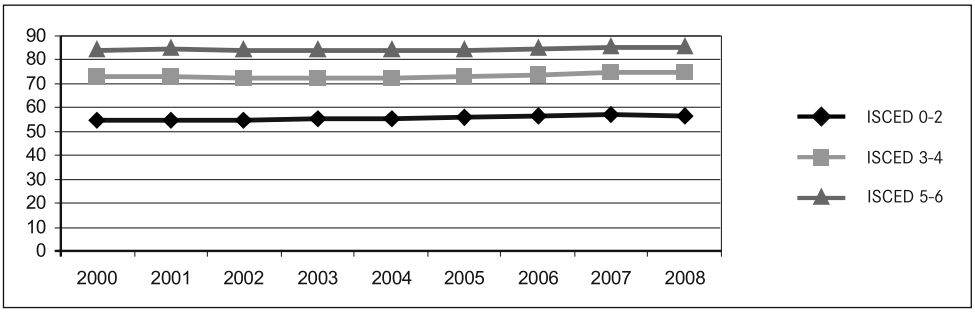
Lack of adequate qualifications is one of the factors which significantly reduce chances of the characterized group in the labour market. It is illustrated at the same time by various statistical data. An analysis of the results obtained within the fourth European Working Condition Survey[13] (European Foundation for the Improvement of Working and Living Conditions, 2008) shows that both: indicated objectively and subjectively by the respondents job insecurity[14] – concerning the risk of losing a present job, as well as employability are connected with the level of education of persons in employment- the better the education,

[13] European Working Condition Survey (EWCS) done in 2005 in the form of questionnaire based interviews covered 29 680 persons in employment (employees and self-employed) aged 15 and more from 31 European countries (27 Member States of the EU, two candidate countries: Croatia and Turkey and two EFTA countries: Switzerland and Norway).

[14] Objective job insecurity was determined by the evaluation for each respondent of such elements that may influence job insecurity as: type of employment contract, employment guarantee, size of the company, type of sector: private or public; while subjective job insecurity was described on the basis of the evaluation by the respondents of the risk of losing job within half a year.

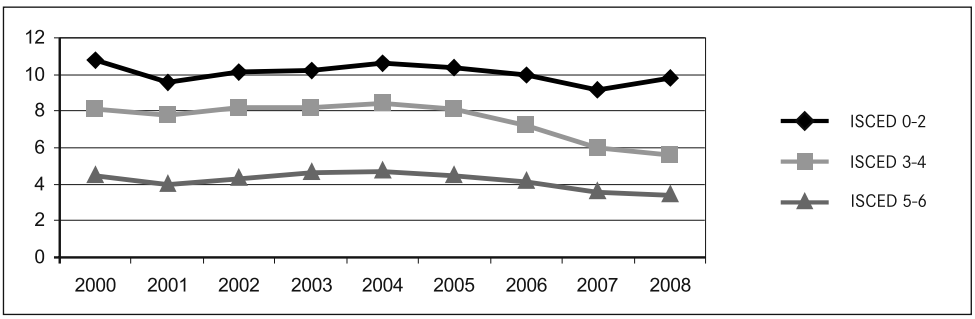
the smaller job insecurity and the better employability. While, according to the European Union Labour Force Survey (EU LFS)[15]– research done annually in the EU– the lower level of formal education, the higher unemployment rate, and the lower employment rate (European Commission, 2009b; European Commission 2010). Its edition of 2008 shows that per every 100 people aged 25-64 with low education level (0-2 according to ISDEC 1997) about 57 people worked at that time on the average, whereas it was true for about almost 86 people per 100 of the best educated individuals (5-6 according to ISCED 1997). As for the unemployment rate, unemployment concerned almost 10 per 100 professionally active people aged 25-64 with education level 0-2 according to ISDEC 1997, whereas in the same age group but with tertiary education only a bit more than three individuals experienced it. Relationships discussed here can be observed in every Member State of the EU. Detailed data in this scope are shown in Figures 6 and 7 and Table 4. It should be added here that this unfavourable situation of the characterized group in the official labour market is to some extent compensated by the fact that it overrates the statistics of work in gray zone. Data within this scope from 2004 concerning Poland show that almost 7 per 10 individuals taking up not registered job had incomplete primary, primary or basic vocational education (Ministry of Labour and Social Policy, 2007).

Figure 6. Employment rate[16] among people aged 25-64 by their level of education (%), years 2000–2008, EU-27.



(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_unemployment_lfs/data/database)

Figure 7. Unemployment rate[17] among people aged 25-64 by their level of education (%), years 2000–2008, EU-27.



(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_unemployment_lfs/data/database)

[15] Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_unemployment_lfs/data/database.

[16] Employment rates represent employed persons as a percentage of same age total population. Employed persons are defined as persons aged 15 and over who during the reference week performed some work, even for just one hour per week, for pay, profit or family gain or were not at work but had a job or business from which they were temporarily absent because of, for example, illness, maternity leave, holiday leave, and education or training.

[17] The unemployment rate is the share of unemployed persons over the total number of active persons in the labour market; whereas the unemployed are defined as those persons aged 16-74 who were without work during the reference week, were currently available for work and were either actively seeking work in the past four weeks or had already found a job to start within the next three months, and active persons are those who are either employed or unemployed.

Table 4. Unemployment rate and employment rate among people aged 25-64 by their level of education, 2008.

Country	Unemployment rate among people with education level (according to ISCED 1997)			Employment rate among people with education level (according to ISCED 1997)		
	0-2	3-4	5-6	0-2	3-4	5-6
UE-27	9.8%	5.6%	3,4%	56.6%	74.9%	85.3%
ES	13.2%	9.3%	5.8%	59.1%	75.2%	83.6%
LV	12.5%	7.2%	3.9%	57.7%	78.5%	87.5%
PL	11.5%	6.3%	3.1%	43.0%	67.1%	85.1%
SI	5.9%	3.5%	3.1%	55.0%	76.4%	87.9%

(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_unemployment_lfs/data/database)

5. Material situation

Lack of adequate qualifications and problems with finding a job are the factors which significantly contribute to visibly worse material situation of the characterized group in comparison to well educated people.

What's interesting, in the opinion of about every third citizen of the European Community a link exists between low education status and poverty. Research of Eurobarometr[18] (European Commission, 2009c) shows that 31% of the respondents believe that people with low level of education, training or skills function as a group most at risk of poverty[19] (in ES 17% of respondents answered in this way, LV – 21%, PL – 24% and SI – 31%), lack of necessary education, training or skills is the most often chosen personal factor (as opposed to policy-related and societal factors) explaining why people are poor (in EU-27 – 37%, in ES – 23%, LV – 35%, PL – 27% and SI – 69%), offering training and qualification is seen by 38% of the Community citizens as a priority area of activities of the state government when helping people to get out of poverty[20] (in S – 27%, LV – 27%, PL – 30% and – 30%). The described here EU inhabitants' believes which concern low education level as an important factor of risk of poverty are justified. This is explicitly confirmed by Eurostat data obtained from the research Income, Social Inclusion and Living Conditions (EU-SILC). Among EU citizens with education level 0-2 according to ISCED 1997, in 2007 the percentages of people at-risk-of-poverty[21] were a bit more than three times bigger than among people with tertiary education (5-6 according to ISCED 1997) – 24% and 7% respectively (table 5). It is estimated that in this year this phenomenon concerned every sixth inhabitant (17%) in the entire Community.

Although, being in employment significantly reduces the risk of poverty, it does not eliminate it entirely (European Commission, 2010; European Foundation for the Improvement of Working and Living Conditions, 2010; Public Opinion Research Centre, 2008a). It may be connected with some specific family structure (e.g. one working adult person supporting a few others), difficulty in finding a permanent, full-time job, or low earnings (Bardone and Guio, 2005).

[18] This research concerning EU citizens' opinion on poverty and social exclusion was done in the form of questionnaire based interviews in the second half of 2009 in all Member States of the EU (the whole sample consisted of 26 719 of the respondents, while in the countries participating in the LEECH project- the population interviewed was: in ES 1 026 persons, LV 1 011, PL 1000 and SI 1 025).

[19] Respondents could choose at most four groups of people at risk of poverty among those given in the questionnaire. The unemployed (56%) and older people (41%) more often chose here low level of education.

[20] Here, respondents could name two priority areas at most. In the whole sample (EU-27), offering work opportunities (61%) and ensuring economic growth in order to improve overall living standards (42%) were chosen more often than offering training and qualifications.

[21] Eurostat (European Commission, 2010) has the following definition of at-risk-of-poverty rate after social transfers - the share of persons below a defined poverty line, which is widely set throughout its publication as being below 60% of the national median equivalised disposable income; EU aggregate figures are calculated as population-weighted averages of national values. Whereas equivalised disposable income is defined as the household's total disposable income divided by its equivalent size. In order to establish the equivalent size of the household, a quotient is attributed to each household member (including children) on the basis of the OECD modified scale. A weight of 1.0 is given to the first adult, 0.5 to other persons aged 14 or over who are living in the household, and 0.3 to each child aged less than 14.

Table 5. At-risk-of-poverty rates by education level among people aged 18 years and over, 2007[22].

Country	Education level according to ISCED 1997		
	0-2	3-4	5-6
UE-27	24%	13%	7%
ES	23%	15%	8%
LV	36%	19%	8%
PL	23%	16%	3%
SI	24%	9%	2%

(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/porta/living_conditions_and_social_protection/data/database)

Eurostat describes here a phenomenon „in-work at risk of poverty", „in-work poverty" or „working poor" relating to working individuals at risk of poverty[23], where it is estimated that in 2007 it concerned 8% of working people aged 18 and over from 27 Member States of the EU – it constituted more than 15 million people in the entire Community (in case of countries participating in LEECH project the proportion was as follows: in ES – 11%, LV – 10%, PL – 12% and SI – 5%). The risk of in-work-poverty much more often refers to working people of low education level than those well educated – in the whole EU in 2007 this phenomenon was observed among 16% of people with education level 0-2 according to ISCED 1997 and only 3% of those with tertiary education (5-6 according to ISCED 1997) – Table 6.

Table 6. In-work at risk of poverty phenomenon among persons aged 18 and over by education level, 2007.

Country	Education level according to ISCED 1997		
	0-2	3-4	5-6
UE-27	16%	8%	3%
ES	16%	11%	5%
LV	20%	10%	3%
PL	28%	13%	2%
SI	10%	5%	1%

(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/porta/living_conditions_and_social_protection/data/database)

Since unfavourable material situation much more often relates to the characterized group than well educated people, it is worth seeing what differences in incomes de facto are. If we assume that mean equivalised net income in 2008 in the population of the EU inhabitants aged 18-64 with education level 0-2 according to ISCED 1997 equals 100%, it turns out that income of those with education level 3-4 according to ISCED 1997 is 118% and of those with tertiary education (5-6 according to ISCED 1997) – almost 177% of the income of people with the worst education level (0-2 according to ISCED 1997). Differences in absolute values in this scope in the entire EU and countries participating in LEECH project are shown in Figure 8 and Table 7.

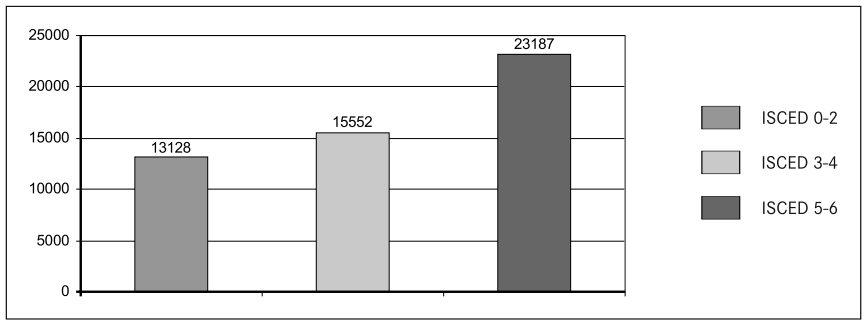
More common unemployment and lack of incomes or small incomes of low educated people cause that they are usually beneficiaries of social care (which is a significant financial burden for the State). For instance, in Poland (Central Statistical Office, Statistical Office in Cracow, 2009) among all people aged 13 and over benefiting in 2008 from social care services, individuals with primary education (complete or

[22] Incomes taken into account in the analysis referred to the year preceding the study.

[23] Working poor are defined as persons who are in work for over half of the year and who have an equivalised disposable income below 60% of the national median.

incomplete) or without education constituted as much as 46.8%, with junior high school education – 9.3%, and with basic vocational education – 28.5%[24].

Figure 8. Annual mean equivalised net income of people aged in 2008 by their education level, EU–27, in euro.



(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/porta/living_conditions_and_social_protection/data/database)

Table 7. Mean equivalised net income of people aged 18–64 years by their educational level in 2008.

Country	Education level according to ISCED 1997		
	0-2	3-4	5-6
UE-27	13128 euro	15552 euro	23187 euro
ES	11830 euro	14389 euro	19153 euro
LV	3068 euro	4126 euro	6261 euro
PL	2940 euro	3941 euro	7071 euro
SI	8823 euro	10706 euro	15401 euro

(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/porta/living_conditions_and_social_protection/data/database)

6. Specific character of professional work

Professional work of low educated people is characterized not only by low earnings but also often by its different specific character, among others, in the scope of type of tasks and way of performing them, as well as tools used. The obvious reasons for this are mainly: the level of education and professional skills of the described group.

As already quoted Eurofund research shows (the fourth from the series European Working Conditions Survey (EWCS) (Parent-Thirion, Fernández Macías, Hurley, Vermeylen, 2007) that different nature of work performed by lower educated people is seen, among others, in their less often usage of computers (IT – information technology) or other machinery in their professional work. Among working people with the lowest level of education (level 0-2 according to ISCED 1997) slightly more than every third person does not use any type of this technology at all, whereas among individuals who have tertiary education (5-6 according to ISCED 1997) it is true only for about every seventh respondent (Joling and Kraan, 2008). Among people using any type of technology for professional purposes those with low education level more often use machinery while computers are visibly more often working tools of those with the best education level (Parent-Thirion, Fernández Macías, Hurley, Vermeylen, 2007; Joling and Kraan, 2008). Whereas statistical analyses show that a clear correlation exists between using IT for professional purposes and better working conditions, as well as between using machinery and its worse conditions. So, work connected with using machinery

[24] However, it should be added here that in the community of people who took advantage of social assistance services in Poland the proportion of persons in pre-working age was twice higher than in general population. Individuals who continued education constituted a big part of them – and it is estimated that even 13% of the whole population of pupils and students in Poland are the beneficiaries of social assistance (Central Statistical Office, Statistical Office in Cracow, 2009).

is characterized by the fact that it is more repetitive, monotype, is connected with smaller autonomy, and greater physical strain (more frequent muscular-skeletal system ailments, worse self assessment of professional risk) and sometimes mental strain. On the other hand, employees using IT are apparently more optimistic as for the professional development perspectives in comparison to people working with machinery or those who do not use any type of technology at work (Joling and Kraan, 2008).

Another element of work's specific character significantly diverse depending on education level is something that Parent-Thirion A. et al (2007) describe as cognitive dimensions of work – its exemplar elements were mentioned in the table below. As can be seen, the better education of persons in employment, the more often necessity/ possibility to solve unforeseen problems on their own, to perform complex tasks, or to learn new things, and the rarer performance of monotonous and/or monotype activities which do not engage cognitive skills of an employee.

Table 8. Diversification of cognitive demands of work among persons in employment with various educational levels, EU-27[25].

Cognitive demands	Education levels according to ISCED 1997					
	0-1	2	3	4	5	6
Solving unforeseen problems without help	69.1%	73.3%	78.3%	87.0%	91.0%	93.9%
Complex tasks	36.5%	48.0%	56.7%	64.6%	74.5%	87.1%
Learning new things	46.3%	54.7%	66.5%	76.5%	86.5%	87.8%
Monotonous tasks	61.1%	45.7%	47.2%	39.1%	30.9%	28.2%
Short repetitive tasks lasting less than one minute	34.7%	28.0%	26.0%	22.7%	18.8%	16.8%
Short repetitive tasks lasting less than 10 minutes	48.4%	45.4%	40.8%	42.1%	29.2%	21.3%

7. Health behaviours patterns and health

Specific character of the discussed group can be seen not only in its functioning in the labour market but also in health sphere. Since the eighties of the 20th century when in Great Britain „The Black report"[26] was drawn up, socio-economic status (including education level) has been commonly believed to be an essential determinant of health behaviour and awareness, as well as health state of people (and connected with it average life expectancy and mortality rates).

As far as behaviours are concerned, there are a lot of studies in literature (e.g. Korzeniowska 2009)[27] which show a clear relationship between low level of education and more frequent engagement in behaviours of anti-health character (i.e. smoking cigarettes, drinking alcohol, improper diet from the point of view of health or lack of physical activity). However, it should be added here that all-European Eurostat data collected within Health Interview Surveys –HIS[28] are not unambiguous. For example, in the four countries participating in LEECH project in the whole group of respondents (i.e. aged 15 and over) the behaviours connected with smoking cigarettes (including percentages of people not smoking presently, as well as heavy smokers who smoke at least 20 cigarettes a day) do not change significantly together with education level. But when we analyse particular age groups in the productive age (e.g. aged 25-34, 35-44 or 55-64)[29], it turns

[25] Source: Parent-Thirion, Fernández Macías, Hurley, Vermeylen, 2007.

[26] "The Black report" is a document of 1980 drawn up by experts panel directed by Sir Douglas Black and published by Department of Health and Social Security of Great Britain. It concerns the problem of inequality in health depending on socio-economic status.

[27] Korzeniowska (2009) describes in her article both relationships between educational status and health state and health behaviours of Polish society on the basis of various all-Polish studies carried out in 1998-2008, as well as relationships between education level and chosen health behaviours in the population of persons in employment in Poland based on the research of Nofer Institute of Occupational Medicine in Łódź of 1988, 2002 and 2007.

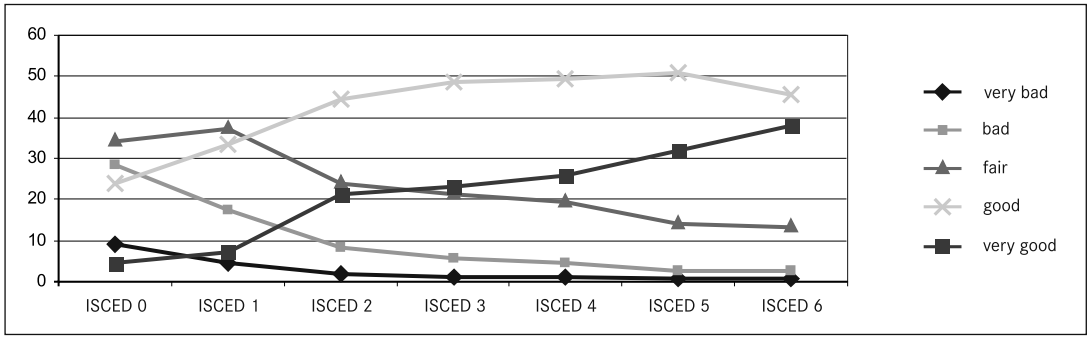
[28] HIS research was conducted on the population of people aged 15 and over in different years in the period 1996-2003 in most of EU countries. In the area of health behaviours, the questions concerned smoking cigarettes (present and past experience) and consumption of alcohol (its any amount in the last 12 months).

[29] Data from HIS research are not standardized by age, thus, among low educated people young people who continue education and who have not started smoking yet and older people who have already stopped smoking (because e.g. they quitted smoking due to their health state) constitute a considerable part of them. Consequently, so as not to take into account the youngest and the oldest respondents who could disturb the relationships which are discussed here, those Eurostat data which refer to particular age groups in productive age were included in the analysis in this chapter.

out that the proportions of those who smoke big amounts of cigarettes are getting smaller and of those presently non-smoking are increasing with education level. What is interesting, HIS research also shows that in the countries participating in the LEECH project education is a factor which determines benefiting from preventive care[30]. It is observed, among others, in the context of consultation with a dentist in the past 12 months before the interview. The lower the educational status, the smaller percentages of respondents who visit dentist's surgery. When we take into account only extreme education groups, it appears that among people aged 15 and over with education level 0-1 according to ISCED 1997 dentist's surgeries were visited in ES by 26.8% of the respondents, LV – 40.9%, and in SI – 22.5%, whereas among people with the best education (levels 4-6 according to ISCED 1997) it was true for: 45.9%, 65.5% and 43.9% of the interviewed respectively[31]. These relationships are also observed in particular age groups in productive age (i.e. among people aged 25-34, 35-44, 45-54 and 55-64). Apart from making use of dental care education also differentiates mammography use. In ES, LV and PL among women in age groups 35-44, 45-54 and 55-64 the percentage of those who had this kind of test decreases with educational status.[32]

More frequent anti-health behaviours and less often uses of preventive care by the characterized group contribute to the increase of differences in health status between low and high educated people. As for the self-assessment of health of the EU inhabitants depending on completed level of education, Eurostat[33] data show that the lower the educational status, the worse assessment of own health is. These are nearly linear relationships observed in all tested age group, i.e. 15 year old and over (it should be emphasised here that these relationships are observed in all ten-year age groups included in Eurostat database, i.e. starting with 15-24 year old, and finishing with 85-year old and older). In case of the whole age group taken into account in the study, dissatisfaction is expressed by a bit more often than every fifth person with education level 1 according to ISCED 1997 (21.9% of the respondents chose such answers as "very bad" or "bad"), while this is true for only a few percent of EU citizens with tertiary education (level 5-6 according to ISCED 1997). Inverse proportions occur in case of satisfaction with health. Health is assessed as "good" or "very good" by only two per five people with primary education (40.8% of the respondents with education level 1 according to ISCED 1997) and by four per five individuals with tertiary education (82.6% with education level 5– ISCED 1997 and 83.4% – with level 6) – these relationships are shown in detail in Figure 9, and with reference to countries participating in LEECH project – in Table 9).

Figure 9. Self-perceived health by educational level among people aged 15 and over (%), year 2008, UE27.



(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/portal/health/public_health/database)

[30] It should be added that according to HIS data these relationships are rather not observed with reference to health care. Percentages of people aged 15 and over from countries participating in LEECH project who consulted a doctor (other than a dentist) in the last 12 months before the interview, were similar in various education groups.

[31] Omission of Poland results from the lack of data in Eurostat base concerning the use of dental care by its inhabitants in the reference period of HIS study.

[32] Omission of Slovenia results from the lack of data in Eurostat base concerning the use of mammography in that country.

[33] Information in this scope was collected within EU-SILC study, i.e. the European Statistics of Income and Living Condition, one module of which is devoted to health issues. Data included in this work concern the year 2008, when persons aged 15 and over, among others, from all 27 UE Member States, were examined.

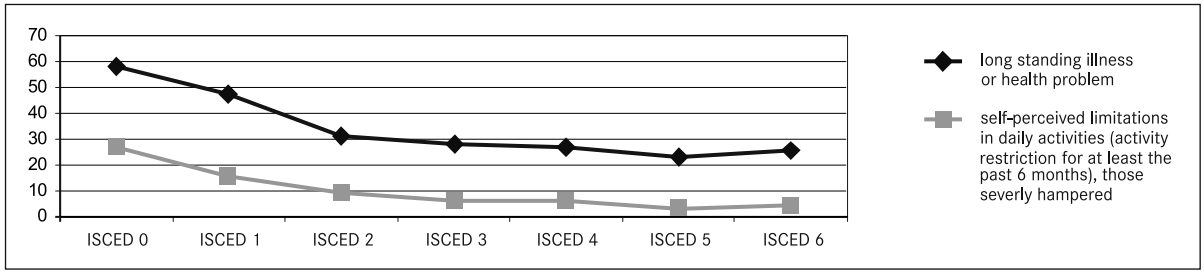
Table 9. Self-perceived health by educational level among people aged 15 and over (%), year 2008[34].

Country	Self-perceived health	Education level (according to ISCED 1997)						
		0	1	2	3	4	5	6
UE-27	bad	37.5%	21.9%	10.2%	7.0%	5.6%	3.4%	3.3%
	fair	34.1%	37.4%	24.1%	21.3%	19.4%	13.9%	13.4%
	good	28.4%	40.8%	65.7%	71.8%	75.0%	82.6%	83.4%
ES	bad	n.a.	14.5%	5.4%	2.7%	2.1%	2.1%	3.1%
	fair	n.a.	32.5%	15.8%	12.0%	11.5%	9.3%	9.8%
	good	n.a.	53.1%	78.8%	85.3%	86.5%	88.6%	87.0%
LV	bad	53.7%	51.5%	23.7%	14.8%	16.0%	9.0%	n.a.
	fair	33.4%	30.6%	35.2%	39.7%	50.4%	36.5%	n.a.
	good	12.9%	18.0%	41.1%	45.6%	33.6%	54.4%	n.a.
PL	bad	64.4%	38.2%	2.3%	12.9%	10.4%	6.0%	11.2%
	fair	27.7%	37.0%	4.6%	26.7%	27.5%	17.6%	24.9%
	good	7.9%	24.8%	93.1%	60.4%	62.1%	76.5%	64.0%
SI	bad	n.a.	34.1%	25.8%	11.3%	n.a.	5.7%	n.a.
	fair	n.a.	37.2%	33.2%	26.4%	n.a.	19.4%	11.9%
	good	n.a.	28.8%	41.0%	62.3%	n.a.	74.9%	88.1%

(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/port/health/public_health/database)

These data are consistent with EU citizens' declarations in the scope of their self-perceived long standing illness or health problem and limitations in daily activities for at least the past 6 months before EU-SILC survey. The lower educational status, the more frequently the respondents have such feelings (this is shown in Figure 10; as for the countries participating in the project – in Tables 10 and 11). It has to be stressed here that these relationships are observed in almost every age group differentiated in the survey (10-year age groups starting with 15-year-olds). The oldest respondents are the exception (with reference to experiencing a long-lasting illness or health problem 65-74, 75-84 and 85 and over, and in case of perceiving limitations in daily activities – 85 and over), from which a conclusion can be drawn that age influence is here much stronger than the change of education.

Figure 10. Proportions of people aged 15 and over declaring long-lasting illness or health problem and self-perceived limitations in daily activities for at least the past 6 months before the survey by education level (%), EU-27, year 2008.



(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/portal/health/public_health/database)

[34] Point „bad" in the table constitutes the sum of percentages of the respondents who assessed their health as bad or very bad; while point "good" – the sum of those whose self-perceived health is good or very good, where "n.a." means not available data.

Table 10. People aged 15 and over having a long-standing illness or health problem, by educational level (%).

Country	Education level according to ISCED 1997						
	0	1	2	3	4	5	6
UE-27	58.1%	47.7%	31.4%	28.1%	27.1%	23.1%	25.9%
ES	n.a.	47.0%	24.2%	19.1%	25.8%	19.0%	20.4%
LV	59.6%	62.5%	38.8%	30.8%	36.0%	27.4%	n.a.
PL	73.6%	55.1%	7.7%	27.3%	28.5%	21.0%	34.9%
SI	n.a.	56.0%	50.4%	36.8%	n.a.	30.7%	29.2%

(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/portal/health/public_health/database)

Table 11. Self-perceived severe limitations in daily activities (activity restriction for at least the past 6 months) by educational level (%), people aged 15 years and over, year 2008.

Country	Education level according to ISCED 1997						
	0	1	2	3	4	5	6
UE-27	26.6%	15.7%	9.5%	6.5%	6.0%	3.4%	4.6%
ES	n.a.	9.2%	3.9%	2.2%	0.9%	1.9%	3.3%
LV	27.0%	23.7%	11.4%	6.0%	9.3%	3.9%	n.a.
PL	27.7%	15.5%	1.8%	4.9%	3.9%	2.5%	4.7%
SI	n.a.	24.7%	15.4%	8.4%	n.a.	3.8%	n.a.

(Self-reported data on the basis of Eurostat database: http://epp.eurostat.ec.europa.eu/portal/page/portal/health/public_health/database)

Eurostat data also show that not only self-perceived health, long-lasting illness, health problem or self-perceived limitations in daily activities caused by an illness but also some objective health rates/effects change for EU citizens together with their education level. Obesity measured with body mass index – BMI can be an example here. Taking into account only extreme education levels, HIS data show that proportions of people aged 15 and over with BMI 30 and over, in groups with education level 0-1 according to ISCED 1997, amount to in ES – 20.2%, LV – 15.5%, PL – 14.1%, SI – 17.5%, whereas among the best educated people (level 4-6 according to ISCED 1997) they equal respectively: 5.8%, 13.6%, 7% and 2.7%. These relationships are also noticed in nearly every age group included in Eurostat databases (with the exception of the oldest people, i.e. age groups 75-84 and 85 and over). What is interesting, they are stronger in female than male groups[35].

8. Satisfaction with life and professional work

Described in the chapter specific character of low educated people: rare possession of skills which are in demand in the labour market (which, among others, results from less frequent participation in lifelong learning) as opposed to groups with high educational status, difficulties on the labour market (e.g. more often unemployment or unfavourable working conditions, including financial ones), as well as worse health (resulting from more common anti-health behaviours), is reflected in lower self-perceived professional and personal life.

[35] It is worth adding that some interesting relationships can be observed between percentages of obese people – BMI <25-30) and education level. While, in the entire groups of respondents aged 15 and over from the particular participating countries there are rather no clear tendencies in this scope, they can be noticed in separate groups of men and women. According to HIS survey, in the group of female respondents from ES and SI the percentage of people with BMI <25-30 significantly decreases with educational status, among men from LV, PL and SI the obesity phenomenon increases with education level.

Analyses carried out within Eurofund - Second European Quality of Life Survey[36] (Anderson R, Mikuliç B, Vermeylen G, Lyly-Yrjanainen M, Zigante V, 2009) show that education level diversifies EU citizens' satisfaction with their present life, feeling that it meets their expectations, and optimism about the future. In every case, such believes are more often expressed by better educated people than those with low educational status. As for the assessment of professional work, other already quoted survey - Eurofund – 4th edition EWCS (Parent-Thirion A, Fernández Macías E, Hurley J, Vermeylen G, 2007) – shows that the proportion of people who are dissatisfied is twice bigger in the group with the lowest education level than among people with the best education (among those with education level 5-6 according to ISCED 1997 there are 12% „not very satisfied" and „not at all satisfied", while among people with education level 0-1 according to ISCED 1997 this is true for 28% of the respondents). At the same time, the better educational status, the more often satisfaction with professional life is – for instance, while in the whole sample every fourth respondent (25%) believes that he/she is very satisfied with his/her job, among people classified in the 6th group according to ISCED 1997 – every second one (51%) says so. The fourth edition of EWCS also shows that people in employment with tertiary education significantly more often express the belief that they have good perspectives of professional career development than working people with lower education level (Joling C. and Kraan K., 2008)[37].

9. Summary

To sum up, data quoted in the hereby chapter clearly indicate a distinct character of the population of low educated people as opposed to those with high educational status. Low qualifications or their lack, which results from short-lasting and/or general (not professional) education and training, are rarely broadened/ acquired in the course of lifelong learning – in 2007 taking up formal and/or non-formal education and training related only to nearly every fifth EU citizen aged 25-64 with education level 0-2 according to ISCED 1997 (18%) and almost every second person with tertiary education – level 5-6 according to ISCED 1997 (58.8%). No wonder that the characterized group significantly less often possesses such particular skills which are in demand in the present labour market as skills connected with using a computer (data of 2009 show that among people aged 16-74 on average about every second person with education level 0-2 according to ISCED 1997 has never used a computer or accessed the Internet, whereas the lack of such experience concerned only a few percent of people with tertiary education). These issues belong to essential factors which explain much worse position of the characterized group in the labour market. It is well illustrated by the employment rate which in 2008 was only 56.6% among the EU citizens aged 25-64 with education level 0-2 according to ISCED 1997, while among the best educated people (5-6 according to ISCED 1997) it was 85.3%; or by mean equivalised net income which in the same year in the EU among low educated people (0-2 according to ISCED 1997) aged 18-64 constituted only 57% of income of those with tertiary education (5-6 according to ISCED 1997). Moreover, in these groups we can observe a completely different specificity of professional work – people with the lowest education use technology (use computers and/or machinery) much less often when performing work duties, and they rarely perform tasks which engage cognitive skills/ intellect. Apart from worse functioning in professional sphere, the low educated have also worse health (both in the context of objective health rates such as BMI, and subjective – e.g. self-perceived health). It is not surprising, because they are characterized by worse health behaviours

[36] The questionnaire based interview carried out at the turn of 2007 and 2008 covered, among others, citizens of 27 UE countries aged 18 and over (the sample included at least 1000 people in every country).

[37] More detailed data in this scope, however concerning Poland only, are provided by the survey carried out in 2007 by the Public Opinion Research Centre (2008b) – 38866 adults were interviewed among which 54.1% were people in employment. While in the entire group of people in employment work is assessed positively by 62.8% of the respondents, bigger proportions refer only to the best educated groups: 68.3% of people with post-secondary level of education, 69.4% - bachelor's degree education, 75.1% - master's degree education and 85.5% - tertiary education with at least PhD. What is interesting, when the respondents were asked for the assessment, using the scale from 1 to 5 points (where 1 meant definite disapproval of a given statement, 3 – an answer: "yes and no (it is hard to say)", and 5 – definite approval), of the eight following professional work dimensions: it gives the feeling of certainty of employment and stabilisation, it is connected with satisfactory social benefits, it gives the feeling that the performed tasks are important and meaningful, it is interesting, it is consistent with education and skills, it gives possibility of professional development and promotion, it requires the improvement of skills and learning new things, it gives good earnings, not qualified workers were the only professional group in which the average overall assessment was negative- below three points.

patterns and less often usage of preventive care. This significantly worse situation of low educated people (in professional, financial and health spheres) is reflected in their much smaller satisfaction with professional as well as private life in contrast to groups with high educational status.

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3. European Union policy towards the low educated people

Patrycja Wojtaszczyk

1. The European Union and social policy

The European Union (EU) is a political and economic organism originally created to ensure four freedoms – a free movement of goods, services, capital and people. These freedoms are to stimulate faster growth, establish good economic and social relations and ultimately strengthen an integrity of the entire region ensuring the security and peace to its inhabitants.

The implementation of four freedoms required a creation of the infrastructure, both physical, legal and organisational, which would allow a full use of these freedoms to the greatest benefit of all people concerned. The opening of borders between areas with different potential may also lead to many disadvantageous effects, such as, for example, a depopulation of certain regions, an unequal access to the benefits of an accelerated development and a deepening of social inequalities. All these may cause tensions and conflicts. Thus, so important for the EU action is emphasis on effective cohesion policy and a provision of minimum standards in all areas of human life and activity on which the implementation of four freedoms may have direct or indirect influence. Over the years the economic programme, which is the axis of the European cooperation, has been enhanced by actions in the area of social policy. It is realized by a standardization and harmonization of laws and rules in force within the EU as well as in more active way: by many programmes supported from the EU budget. In these programmes appear issues of education, access to education, skills' development, access to health care and health care at work. An important course of action of the EU is also a consumer protection and public health, in particular health promotion. Each of these areas is particularly important, especially in the context of the implementation of a free movement of services and people (including the one connected with taking a new job) as well as balancing the potential of regions and local communities. What is more, activities related to the elimination of social exclusion are also a form of building a social dimension of the internal market (Szarfenberg, 2008). A reflection of the European Union interest in social problems is a functioning of the Directorate-General for Employment, Social Affairs and Equal Opportunities within the European Commission.

2. Strategies of the European Union

A closer look at both political and programmatic declarations or specific financial instruments used in the EU shows that the issue of social exclusion of people with low status occupies high position in the hierarchy of the EU priorities. It should be remembered, however, that social exclusion is understood primarily as a poverty (mainly due to problems with employment), a disability, a cultural mismatch (resulting from e.g. migration) while issues of low level of education are not a separate, heavily outlined

topic in the policy against exclusion. The objectives of problems affecting people with low educational status are much more clearly outlined in employment and educational policy of the Communities.

General objectives for the last decade were appointed in the European Union by a key document, the so-called Lisbon Strategy. Actions taken for its implementation were to ensure that Member States would become a leading entity in terms of competitiveness and dynamism of development in the global economy. The aim of the UE was (and still is) a creation of more jobs of better quality and an increase of social cohesion. Assumptions of the Strategy were very laudable, however, it is already known that, unfortunately, their implementation was not fully successful. Nowadays a preparation and adoption of next ten year strategy guiding the development of the EU is under way (a strategy for smart, sustainable and inclusive growth). It is a continuation and development of the Lisbon Strategy. However, first we will look at the structure and logic of the strategy for the first decade of the 21st century. It set both for the Communities (as a subject of the international law) and individual Member States specific goals to achieve, which defined four main courses of action: arrival at the model of knowledge-based economy; modernization of the European social model; development of a framework for a stable macroeconomic policy and affirmation of a sustainable growth.

As to monitor changes and progress in the implementation of the Strategy there were adopted about 100 different indicators that form the so-called Table of Structural Indicators (the merits of their selection is sometimes questioned). It is worth noting that among five main areas monitored by these indicators there is the issue of employment and social cohesion (the others are creativity, economic reforms and natural environment) (Szomburg, 2004).

An important objective in relation to the issue of people with lower education level in society and their place in the EU policy is a creation of a knowledge-based economy - the economy in which count high qualifications and creativity. Such a goal necessitates a series of measures that are to result in the gradual improvement of the quality of human resources. These resources are to create knowledge-based economy and use its products. Specific objectives related to the issues of employment developed within the Lisbon Strategy are consistent with this way of thinking. There appeared, therefore, courses of action such as: improvement of the employability and skills of workforce; increase of the adaptability through lifelong learning; increase of the employment in services and reduction of the scale of inequalities in access to work. As for the creativity, the Lisbon Strategy pointed at the need for an infrastructure, including a training one, for the informatisation of the society and investment in education that facilitates work and life in the knowledge-based economy. The indicators for this area include: halving the share of people aged 18-24 with education no higher than secondary; creating school-based multi-purpose centres of local education; certificating ICT skills; facilitating the mobility; introducing a standard CV format. The new economic model and support for the knowledge could potentially lead to an excessive social stratification and escalation of problems of social exclusion. Hence, very important place among tasks for the Lisbon Strategy belongs to taking care of various risk groups (e.g. minorities or people with disabilities) for which adaptation to new requirements may be more challenging than for others (Royuela-Mora et al., 2005).

For the next decade there is proposed the Europe 2020 Strategy. The experience of economic crisis from 2008 and difficulties in implementing the indicators adopted for the Lisbon Strategy did not discourage politicians from planning ambitious tasks. The European Commission proposes, inter alia, achieving at the end of the designed period a 75% employment rate of people between 20-64 (at present it is around 69%). The main objective here is an increased professional activity of women, youth, elderly and low educated people and better integration of migrants in the labour market. The European Commission also proposes spending 3% of the EU GDP on research and development (it means taking advantage of the synergy effects achieved thanks to a better use of private funds); reducing the number of dropout rates to 10% (currently it is 15%); leading to a situation where 40% of young people will have a university education (currently it is 31%); reducing the number of people at risk of poverty by 20 million and adopting goals for a climate protection and energy conservation. It is worth noting that the original proposal of the European Commission for increasing level of employment did not include explicitly low educated employees - this record appeared while the European Council was concluding on the draft strategy outlined by the Commission. The final version of the strategy should be signed in middle of 2010 (the European Commission 2010, the European Council 2010).

Strategic objectives, both from the Lisbon Strategy and a new Europe 2020 Strategy, constitute the axis around which are built assistance programmes of the EU and to which are matched the EU actions and funds. Thus, indicators and courses of action adopted by the Community are so important. They are also used in the national policies of Member States. Countries, members of the EU, prepare on the basis of agreed courses of action both programmes of domestic reforms consistent with the strategic objectives and their financial plans. Combining the efforts of Member States with activities of the European Commission and other EU institutions or agencies is to ensure the achievement of projected rates of growth. For this reason it is valuable that even at the level of specification of the strategy's measurable objectives, there appeared in the draft a record of raising the employment rate among people with low educational status. The strategy does not specify how this goal is to be achieved. Choice of methods of obtaining the indicators' predicted level is undertaken at the stage of building and realisation of specific programmes.

3. Low educated people and selected EU policies

Basically, solutions aimed at low educated people are to be sought in the project's LEECH survey in three areas: health policy, education policy and social policy (especially in the area of employment and combating social exclusion).

Health policy, according to the founding treaties of the Communities, is to be implemented in accordance with the principle of "health in all policies". The EU must also seek to "improve public health, prevent human diseases and ailments and dispose of sources of danger to human health". It is worth noting that since 2005 one of the indicators for the Lisbon Strategy, taken into account in the whole group of them, became the HLY (healthy life years). In reality, ideas from the treaties and the Strategy are implemented by taking into account health aspects while introducing rules for all areas of life (e.g. taxes, environmental protection and scientific research) and through the open method of coordination in the arrangements for all policies related to health, particularly health care (solutions concerning border areas and ways of accounting for medical services between insurers and health care systems in different countries). The competences of the EU do not include issues related to the organisation of health care systems in Member States. The EU deals with issues of health promotion, public health and assignment of minimum standards for health care, e.g. at work. Furthermore, it is worth noting that issues of ensuring access to health (medical care) and education are also included in the Charter of Fundamental Rights which, despite its indeterminate legal status, is an important point of reference to the functioning of the Communities.

The ongoing EU actions concerning health have been structured into specific objectives within a Strategic Approach for the EU 2008-2013 called Together for Health. The first challenge, which results from demographic changes and is mentioned in this document, is to ensure the stability of health care systems. The way to tackle this problem is a promotion of health throughout life cycle and reduction of inequalities in access to health which result from social, economic and environmental conditions. In the whole document the status of education is not mentioned directly, but it may be presumed that it is also an important aspect generating unequal access to health and thus it should be undertaken by the EU. As a method of dealing with this issue one indicated the popularisation of health literacy programmes for different age groups.

The main financial tool which allows the realisation of the EU health policy is the Public Health Programme 2008-2013. This second programme of Community action in the field of health shows that under its auspices actions which may help to identify the causes of health inequalities and encourage, among other things, the exchange of best practices in disposing of these inequalities should be undertaken. Therefore, within the programme annually are funded these projects which are dedicated to this subject, though it is hard to find activities relating primarily to the problem of inequality resulting from differences in educational status (the European Parliament, 2007).

Another major area is education policy of the EU. Although it is an area shaped by Member States themselves (as well as issues of health care), in programmes of the EU there are set common goals and implemented various mechanisms to promote their realisation. The Lisbon Strategy is implementing the concept of "learning throughout life" which is to build and develop a learning culture and give a high level

to learning. It is also to increase access to information and advice on educational opportunities and bring these opportunities to students; increase level of investments (financial and time-related) in learning; disseminate basic skills (including social and civic competencies) and develop innovative ways of learning.

The leading instrument of the implementation of this concept is the Programme of learning throughout life for which the EU allocated around 7 billion euros for years 2007-2013. The Programme is to support vocational trainings and cooperation between enterprises and institutions of vocational training (Leonardo da Vinci); increase students' mobility and cooperation of universities (Erasmus); finance educational projects for adults (Grundtvig); as well as improve cooperation between schools and teachers working in them (Comenius). In particular, the Grundtvig programme refers to activities related to raising competencies and solving problems deriving from low educational status (DG Education and Culture - web service). The LEECH project and this publication were possible thanks to support from that source.

Social policy of the EU is another important area for low educated people. As mentioned earlier, objectives of the long run strategies of the Community include issues concerning a prevention of exclusion and improvement of social cohesion.

The programme of social action is carried out since the 70's as a part of the EU policy. Currently, the key tasks in this field are determined by the so-called Social Agendas. They are a kind of programmatic declarations accompanying the Lisbon Strategy, the implementation of which is carried out thanks to various instruments: the EU legislation; social dialogue (understood as the cooperation of unions and organisations of employers, employees and public administration); co-operation between Member States; the EU funding (use of the Community structural funds, the European Globalisation Adjustment Fund and the PROGRESS programme for the purposes of employment and social solidarity); partnership, dialogue and communication (the involvement of NGOs, regional and local authorities and other interested parties, consultations with them) and ensuring that all policy areas of the EU will promote opportunities, access and solidarity (monitoring new initiatives in terms of their social and employment consequences).

First EU Social Agenda, adopted in 2000 by the European Commission, included first five years of the Lisbon Strategy (2000-2005). The current version, launched in February 2005, covers the years 2005-2010. Since all measures provided in the Agenda 2005 were adopted, the European Commission launched in July 2008 a new version of social agenda, the so-called Renewed Social Agenda: Opportunities, access and solidarity in 21st century Europe. It includes initiatives in areas of education, health and combating discrimination. This agenda deals with a number of elements of social policy, pointing out such priorities as: investing in people, new skills, quantity and quality of jobs; longer and healthier life (in this case low level of education is indicated as one of the risks) and reduction of poverty and social exclusion. The poverty has been a dominant problem in programmes of this type for over 40 years. In the Social Agenda, year 2010 is devoted to the campaign on issues of poverty and social exclusion (European Year for Combating Poverty and Social Exclusion). Guidelines for Member States indicate as the main scope of such a policy: eliminating inequalities in education and training, including training in informatic skills and programming equal access to information and communication technologies for all (particularly for the disabled); ensuring equal access to appropriate resources and services, including adequate housing and health care. What is more, the campaign is to be used to promote the integrated strategy for an active integration. The European campaign and national programmes associated with it has just been started. They will be valued in the first half of 2011 (the European Commission, 2008 a).

In the document that adopted the Renewed Social Agenda attention is brought to the level of education and competence development: "A development [of technology] increases the demand for skills, widening the gap between the skilled and unskilled. (...). The overriding social issue for the longer term is to how best to equip individuals with the right skills to give them a better chance in the modern economy as workers, entrepreneurs and consumers. This is more than an issue of industrial training in the conventional sense. It is about what types of skills and competences are needed for a new type of economy and how citizens can be equipped to succeed. That is why the EU is investing heavily in skills development, (...) and promoting mobility in education and continuous training and in knowledge and innovation". At the same time, the Commission committed itself in the Agenda to present at the turn of 2008/2009 an initiative "New Skills for New Jobs", in which one is to give initial assessment of the labour market and skills needed for 2020; create a map of existing instruments used for forecasting at the national and European level and propose

more effective approach to predict developments in the labour market and adjust demand to supply in this market through synergies between employment, training and education policies. The initiative was realised and it was an indication for the preparation of the EU Strategy 2020, which is a continuation of the Lisbon Strategy for growth and employment (European Commission, 2008 b).

4. Summary

Basically one may conclude that the issue of low educated people in the Communities is noticed at the level of strategic and programmatic declarations. It is to be solved by increasing efforts to permanently rise educational status of residents and support groups at risk of lack of access to education, such as the poor, the disabled or the migrants. Beside the school system, the development of its accessibility and improvement of the quality, there are also widely supported an area of non-formal education and all programmes in accordance with the philosophy of continuous competences' improvement in various fields. This is the socialization to education throughout life, geographical mobility but also flexibility regarding career and place of employment.

It is not seen, so far, a stronger trend in adapting the public health sector to the specific needs and expectations of low educated people. This may partly stem from the fact that the sector of medical care is governed at the national level and is not an area of the EU competence. Thus, a preparation of the staff to a cooperation with low educated people may clearly differ in various countries. However, a reference is made to the need of ensuring the access to appropriate services and health care. The EU domain is health promotion, where one focus on equalling opportunities to access to health, including a realisation of programmes increasing health literacy.

Social policy is focused on including people with low economic status (which is often connected to low educational status) and specific groups at risk of marginalisation within the society. However, programmes relating to these issues are not aimed at the subject of health competencies of low educated people or adaptation of health education and health promotion programmes to their needs.

Taking into account fact that the knowledge-based economy was designed as the direction of a development for whole EU, it is very likely that the issue of low educational level and educational needs of such persons will increasingly determine directions of a development of the Community social policies, especially education and health ones, in subsequent years. Creating an integrated approach and appropriate tools to strengthen health capacity of human resources and equal access to health, in particular for people with low educational status, appears to be a key task for the future as to avoid an excessive social stratification and creation of enclaves excluded from a variety of benefits of the modern, innovative economy.

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4. Determinants of health behaviours and possibilities of shaping them

Krzysztof Puchalski

1. Introduction

When practitioners of health care of employees are talking about health behaviours it is usually assumed that all people understand these behaviours in the same way. What is more, it is assumed that most important factor deciding about these behaviours (starting, continuation, development, modification in the desired direction, etc.) is a health knowledge of employees, lack of which leads to a disregard of health. It is also often assumed that as for the adults the formation of this knowledge, beliefs and skills conducting to healthier lifestyles is essentially a matter of appropriately selected procedures and technical measures (such as teaching methods, communication techniques, content of transfers) which every teacher/ trainer may learn or acquire and effectively apply in practice without a necessity to understand well the specificity of way of thinking of educated people.

Educational activities based on such assumptions have repeatedly proved to be effective in shaping both competences for health behaviours and these behaviours themselves. However, their effectiveness left too often much to be desired. On the one hand, it could be the result of errors in conducting health education or health promotion (their weak adaptation to the specific needs of the recipient), on the other hand, even with a good influence from the perspective of teaching, it could be an effect of the fact that educated people and their behaviours were in reality more complicated than authors of undertaken educational interventions assumed. In other words, unsatisfactory effects may have resulted mainly from the fact that undertaken actions do not take fully into account complicated determinants of health behaviours of people exposed to an intervention.

Currently the attention will be brought to the complexity of health behaviours and thus their determinants and ways of shaping. In this background (in further chapters of the book) there will be presented conclusions drawn from the survey carried out in the project for the improvement of health education and health promotion of low educated employees. As these conclusions relate to a separate social category and not a specific individual, the determinants will be discussed in general, as referring to many people simultaneously. The generality also derives from the fact that there is discussed a case of health behaviours and healthy lifestyle which consists of many different activities, both in terms of their content and causes, mechanisms or forms of implementation. First of all, therefore, the problem of complexity of these behaviours will be described.

2. The concept of health behaviours and an orientation of interventions

While speaking of health behaviours and healthy lifestyle one may have in mind a variety of criteria directing attention to these or other behaviours.

Currently in health sciences and public health practice most emphasis is put on the issue of content that contribute to the so-called healthy lifestyle. Behaviours are counted as healthy (healthy lifestyle)

according to their strength with which they affect health (reduction of health risks) and which is determined mainly on the basis of population-based epidemiologic studies. Most prominent behaviours include: healthy diet (described by the frequency of a consumption of certain products in certain doses, avoidance of consumption of other harmful products, composition of a diet's components, amount of energy in a diet, quality of consumed food, etc.); moderate but regular physical activity; recreation and relaxation; constructive coping with stress; non smoking and avoiding tobacco smoke; no alcohol consumption or drinking it only in minimal doses; abandonment of the consumption of psychoactive substances. Here one may also refer to: numerous behaviours protecting health at work (use of personal protective equipment, adequate breaks during work, proper body position, etc.); safe behaviours in traffic (use of safety belts, appropriate speed); safe and responsible behaviours in sexual relations. Finally, one outlines activities manifested in relations with medicine, such as regular health check-ups aimed at early detection of certain diseases; fast reporting to a medical help when there are observed alarming symptoms of a disease, usage of necessary medicines without their abuse.

Behaviours identified as healthy may be of course a bit different when we do not mean health in general but a prevention of a specific disease (e.g. ischemic heart disease, diabetes, skin cancer, HCV infection et al.)[1] or if health relates to specific risk groups (e.g. categories of age, gender, subculture, personality type, defined genetic risk, profession, etc.).

In social sciences, in turn, attention is brought to other issues.

First, the question is posed whether what is called a lifestyle in medicine is really the style (in terms of consistency, stability) of behaviour of individuals or groups, or perhaps only a scope of scholars' interest set in theory. For example, in the past decade American studies found out that although three-quarters of population do not smoke, 40% maintain normal body weight, over 1/5 consumes at least five portions of fruits and vegetables a day and the same amount benefits from a daily moderate physical activity, only 3% of the respondents performs these four types of activity at the same time (Reeves, Rafferty, 2005). A comparable activity in Polish population was estimated for a few percent too (Puchalski, Korzeniowska, Piwowarska-Pościk, 1999), although 80% of adult Poles believed they are people that care for health (CBOS 2007). It is therefore difficult to talk about an empirical presence of a healthy lifestyle and one may only indicate a higher or lower dissemination of individual behaviours important for health and health related beliefs in the society.

A different interest of social sciences is also manifested by the fact that as health behaviours one regards here mainly those behaviours which are implemented in order to influence health (with the intention of strengthening health and combating a disease), regardless of how such an impact is valued by medicine. It is therefore significant the goal, the intention referring to health. They are distinguished from actions taken for other purposes (regardless of whether they objectively, positively or negatively, affect health), as well as spontaneous or habitual behaviours where a health motive (or any other) is unlikely to occur.

Among health behaviours understood in such a way one may distinguish active and passive activities. First are aimed at the pursuit of purpose, the introduction of planned changes which often requires a dose of heroism: rejection of commonly approved models; resignation from habits or pleasures (e.g. quitting smoking by a tobacco addict who likes smoking and is surrounded mainly by other smokers). Passive activities are the result of a natural course of action or "no opportunity" for unhealthy behaviours (e.g. non smoking by a person who has never smoked, is annoyed by the smell of tobacco smoke and spends time among non smokers). From another point of view one may distinguish sporadic actions and, in opposition to them, such actions that are undertaken regularly. One may also talk about individual actions (taken independently by few people), as well as mass or collective actions (realised by many people, sometimes simultaneously, with awareness of common goals and behaviours and with more or less developed mutual cooperation).

With such a diversity of what we call health behaviours (and healthy lifestyle), it is difficult to precisely define a direction of a desired intervention when the ultimate goal is a generally understood health of many people at the same time (and not only a reduction of the risk of one, specific disease of

[1] It should be noted that some of these specific conclusions may be contradictory, as for example an issue of a regular consumption of small doses of alcohol (healthy in terms of prevention of cardiovascular diseases, but hazardous to health because of the possibility of addiction and other diseases or problems related to the alcohol consumption) (Anderson, Baumberge, 2007).

a person). One can only assume, basing on science background, that it is to be a wide range of behaviours with a confirmed positive influence on public health (with the use of a variety of its indicators). If one takes into account this impact, it is worth noting these behaviours that not only were an occasional act but also were implemented in so intense, regular and persistent way that they had the desired health effect (hence the category of lifestyle stressing regularity and repeatability). At the same time, assuming ethical reasons, it is worth stimulating activities that people knowingly and willingly accept or select from many opportunities available to them. Second condition causes that in shaping health behaviours there are rejected methods which are designed to make someone's lifestyle healthier but against will and consent of groups or communities concerned. Groups are discussed here because it comes to health effects on a variety of people, basing on interventions aimed at not only the individual patient/ client, but also a wider audience.

3. Determinants of health behaviours

It is worth noting another aspect of the complexity of health behaviours which is the variety of their determinants. Interventions implemented in health education and health promotion are rarely addressed directly to the behaviours and usually to the chosen determinants of these behaviours.

In social sciences one may find many different theories, findings and disputes on what determines human behaviour, also the one referring to health (e.g. Glanz, Rimer, Lewis, 2002).

First of all, there remains unsolved the problem whether main causes of behaviours are located mainly on the part of an individual, in the man itself, or perhaps in external environment, society and living conditions? To what extent and under what circumstances is crucial first or second of these factors. In other words, whether (or to what extent and range) a man is an inner-controlled being (its behaviour results from the belonging characteristics and, what is even more important, it controls its behaviours) or an outer-controlled being (its behaviour results from characteristics and influences of the environment in which it lives and it has no greater opportunity to oppose external influences).

If causes of behaviour are located mainly in man, which theory is closest to the truth? Are right various cognitive theories which say that the behaviour is a result of our thinking, that we interpret the surrounding world according to our "cognitive maps" (structures of concepts, systems of values, criteria of rationality, *etc.*), intellectually process given information and then consciously make a choice of how to behave (even if we decide to submit to some pressures or standards)? Or maybe closer to truth are "theories of depth" that derive human behaviours from unconscious internal conflicts, drives and other forces hidden deep in our psyche that are difficult to be intellectually controlled? Or maybe right are biological and evolutionary theories claiming that behaviour results from the mechanisms and characteristics encoded in the biology of the organism, independently of human will and with difficulty adjusting to this will? Perhaps more correct are behavioural concepts which perceive us as reactive beings, attach a greater importance to the characteristics of the stimulus acting on us than to the content of thought or mechanisms hidden in the depths of the psyche or biology, and bring these mechanisms to more or less conscious, inner calculation of gains and losses associated with taking an action or not?

Even if one does not answer definitively whether we act because of the content of our thinking, hidden dispositions and mechanisms or under the influence of some stimulus, a question of which factors (and when) more strongly affect our behaviour still remains open. Speaking more specifically: do we mostly succumb to stimuli and try to seek (or our body seeks) pleasure or internal harmony; do we act to avoid punishment rather than obtain the reward; do we want to multiply resources or implement the values; are we governed by our selfishness or altruism; are we more rational or emotional? To what extent and under what circumstances do we go by or are guided by the will of life, the strive for maintenance of the species (transfer of genes), the conformity to models or norms and values, the need for self-fulfilment, *etc.*? Are we, as a man was described by well-known thinkers, more of homo faber or maybe *homo ludens, homo oeconomicus* or *homo symbolicus*? Or perhaps closer to our nature is a popularised by Tischner *homo sovieticus*, that uses only what is offered to it and waits for someone to take care of it without taking an independent activity and responsibility for its own fate. Maybe some other features are characteristic to our personality or maybe in general there is no such a universal characteristic of a man?

And if our behaviour stems not from the characteristics of the person, but the characteristics of the surrounding world, the environment we live in: do we act more under the influence of what is physical (e.g. characteristics of the climate, technological environment) or what is social? To what extent are we determined by our place in the social structure and the assigned or achieved status (and standards related to it), and to what extent may we independently construct our social roles and ways of action? To what extent are we influenced by the development of civilization (especially now, in the context of accelerated technological changes), and to what extent do we remain unturned? Have we already turned into a 'global person', or maybe we are still dominated by features of the native, local culture? Are we a 'product' or rather a co-founder of phenomena and social processes that surround us?

All these dilemmas apply also to the context of health. Then, however, an additional question appears: are the behaviours important for health decided mostly by reasons associated with health (e.g. value attributed to health, models of health behaviours, health condition) or conditions far from the theme of these cases (e.g. level of general education, models of successful life, technologies in use)? Thus, is it possible to limit attempts to shape these behaviours to actions taken for health effects, or maybe (and to what extent) one has to influence factors associated with other contexts (e.g. education policy, consumer rights)?

And finally, are the conclusions on any of the reported problems universal, therefore true for all people or their majority? Or maybe some of them are valid for some social groups, and other for others? Maybe each man is so different that it is difficult to identify a common factor or a mechanism conditioning human behaviours? And even if such a factor was indicated, would it be the same in all situations of human life? Is an action of an individual in all circumstances directed by the same determinants, or do they change depending on the context in which action or mere reflection preceding it takes place? And finally, are we dealing with similar determinants in the case of each type of health behaviours (already discussed above)? For example - does a senior operate under the same influence as a young man, regardless of whether it comes to physical activity or choice of food, without regard to whether he is tired or hungry, and regardless of whether he is on holiday with friends or on a business trip with a demanding client?

Although social sciences have accumulated a lot of findings documenting the impact of certain factors on different health behaviours, a knowledge in this area is still negligible, especially when it is assessed in the context of possible applications. For example, we often have findings suitable for narrowly separated classes of behaviours which are inadequate for others. Sometimes there are recognised determinants of actions undertaken in a specific situation, while in different circumstances the same factors have no longer a desired effect. Although much data was gathered for the problem how to temporarily change a behaviour, it is still a clear lack of knowledge on how to keep it in the long term. Findings relate often only to an influence of an isolated factor without its sufficient confrontation with other influences, as the research is conducted on the basis of one-dimensional conception of a man. Finally, it is not a rare thing that gathered findings are contradictory. It is therefore difficult, basing on scientific evidence, to assume that there exists a good, relatively universal explication of the causes of all (or even most of) important health behaviours and that there are widely known effective ways of modifying these behaviours in a positive direction.

If one accepts the assumption that each of the mentioned (and other) concepts explaining human behaviour is to some extent justified (in relation to a separate class of behaviours, category of people, specific situation, *etc.*), and if one takes into account the fact that findings gathered in science are true only for narrow objective scopes, there appears a need to gather into one main determinants of health behaviours, so as to approximately assign an item for desired health interventions. To this end, below there will be presented a theoretical model which orders, for purposes of health education and health promotion, main factors considered as determinants of health activity of individuals and social groups.

4. General assumptions of the model

If generally recognised health behaviours are a complex and polymorphic phenomenon, they are also probably subjected to a number of reasons. Hence, there are not considered here as relevant such theories which refer to a single, homogeneous group of factors and adopt as universal a one-dimensional concept of a man. Going further, if it is true that only part of health behaviours (in the sense of the interest of medicine) are those which are undertaken for a reasonably précised reason, there is a need

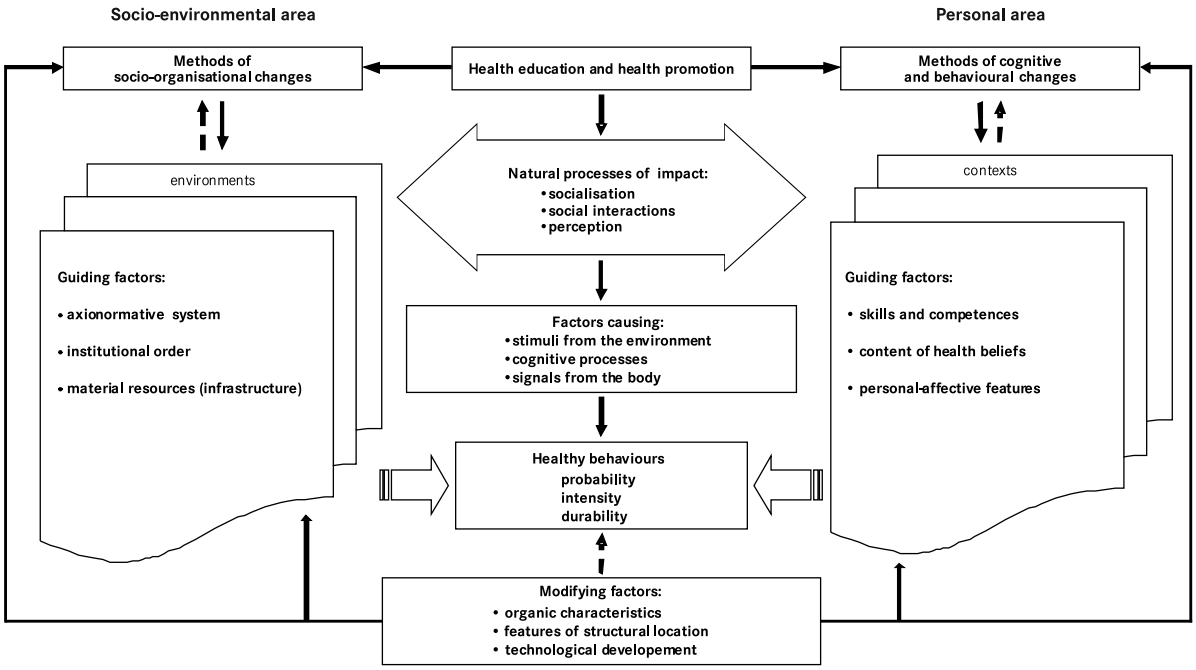
for a wider inclusion of non-volitional factors among explanatory variables. They include: emotions, well established styles of action, incentives from social interactions, influences of culture and social structure, direct pressure of social institutions, material conditions *etc*. If it is also true that health activities, also the reflective ones, are often not accompanied by thinking about their relation to health and that many of them are undertaken from other reasons than health[2], it is not accurate to refer in their explanation only to such an area of awareness (knowledge, beliefs, values, attitudes, *etc*.) which deals with health issues. Furthermore, common thinking is not always consistent, rational and compatible with the logic of scholars who create theoretical cognitive schemes.

The need for a broad perspective derives also from the fact that various but specific factors and mechanisms may be the underlying causes of different types of behaviours (other factors may determine non-smoking and healthy diet, other factors explain a consolidation of the habit and its purposeful change, *etc*.). What is more, similar activities in terms of content are realised by different people under the influence of different motivating factors. They are often decided not by a single factor but a whole range of determinants. Although all these assumptions seem obvious, practice of research and implementation in the field of health promotion suggests something else.

The postulate of practical utility of the model means that it has been conceived as a help in developing, implementing and evaluating health education and health promotion programmes. It allows to collect, organise and harmonise empirical findings and may be a matrix of areas of actions within intervention programmes. The key elements included in it are those that at least to some degree are subjected to modifications in organised processes of health promotion, realised both at the population level and in the narrower scale (e.g. at work). Treated as less important are those factors on which health promoters can not have an impact (e.g. structure of gender, age or level of education in the community, degree of technological development).

Generally, main determinants of health behaviours may be schematically presented as follows (Figure 1).

Figure 1. Model of determinants of health activities (Source: modified study on the basis of Puchalski, 2008).



Health behaviours of the representatives of a specific social collectiveness are included here as a result of factors (including purposeful interventions) located in two areas: socio-environmental and personal.

[2] For example, when choosing the menu, nearly four times as many people from the representatives of Polish society is guided by the fact that food should be delicious, rather than healthy. Although only few of respondents think that fried meat is healthy, the 1/3 of them declares that wants to eat it more often, and about 70% agree that they particularly like it (Pentor, 2005).

In each of them there have been distinguished: phenomena and characteristics (1) formed through natural processes of development of individuals and communities and (2) activities undertaken in purposeful interventions of health education and health promotion, shown in the upper part of the chart.

Determinants formed naturally were divided into two groups. First one includes factors called guiding, that are separately shown for socio-environmental and personal area. They determine possibilities of implementation, content and intensity of behaviours important for health. Moreover, they include the phenomena that more or less submit to educational and promotional interventions and may be changed by them. Second group, shown at the bottom of the chart, is formed by the so-called modifying factors. The possibility of their transformation is rather beyond the control of health promoters. They both affect guiding factors and constitute a general framework for the application of socio-technical activities.

Conditions identified as socio-environmental factors may refer to different social groups in which a person functions. Generally, there are such elements of the environment in which health education or health promotion programme is implemented (e.g. at work), but one should also take into account both other areas (e.g. social or professional ones, family) in which the subject of behaviours in question is usually placed and environments that have great importance for it. Elements of these different environments are sometimes similar, mutually compatible and imposing, but they may also be different and even contradictory.

Similarly, factors called personal may reveal various contrary aspects, depending on a situational context in which an acting person is placed. Such a context may: directly influence a person placed in it, trigger its mind, encourage usage of these or other values, activate these or other responses appropriate to a given situation (e.g. fun, vacation, consumption, love, work). It may also be only a mental context, resulting from an intentional or emotional acceptance of one or other approach. An indication of different contexts, generating in the same man various and sometimes contrary dispositions to behaviours, results from the adoption of the concept of human nature's polymorphism (Ossowski, 1967). This concept claims that a man is shaped in a wide variety of often inconsistent beliefs, aspirations or attitudes resulting from a socialisation in different social environments. The environment in which he is currently placed (in reality or only in his ideas) or actions he carries out, activate in a man these of many previously acquired attitudes and dispositions (being in the state of recession) which are characteristic for this environment, action or more general mental state. An example of this could be a person who on a daily basis almost fanatically respects the principles of a healthy diet, intensively benefits from a physical activity, avoids alcohol and tobacco smoke and subscribes to the principles of safety in sexual relations, but shifted, during a weekend or a holiday, from the contexts of everyday life (work, family) in the context of fun and relaxation, radically changes its attitudes and actions.

Both areas of guiding factors, socio-environmental and personal, were related to each other on the chart thanks to three processes. First one, most extensive, complex and long-lasting, is a socialisation in the result of which individuals acquire as their own (internalise) standards, models, expectations and values present in the society (various environments, circles or social contexts). Second mechanism, separated from the previous one, consists of social interactions in which people shape and verify their beliefs, models of conduction, identify opportunities or barriers to actions, acquire skills, submit to models, standards and expectations, experience social pressure, receive stimulation and support. Third mechanism, again separated from the previous one, includes processes associated with a perception of a situation, allowing an orientation in actual needs and opportunities or making intentional choices. These three hierarchical processes and mechanisms cause that health behaviours are the result of an interaction between socio-environmental and personal factors. On the one hand, they transmit into the consciousness of acting people the impacts of socio-environmental factors, on the other hand, they indicate an active role of a man in experiencing and processing these impacts.

Health behaviours are not only the result of already identified, relatively fixed factors (guiding and modifying), but also incidentally emerging incentives to the activity, called triggering factors. They usually appear in a natural way, but some of them may also be deliberately activated in health promotion programmes. They may come from the environment (e.g. media events showing a specific problem), as well as processes occurring in the personal area (e.g. observation of symptoms of a disease).

Health behaviours, their probability, intensity and durability, are regarded as an effect of indicated conditions and interactions between them. One may generally assume that the more various and mutually consistent are healthy factors occurring in each of the groups highlighted in the model, the greater the chance that a desired action will be implemented.

A further presented brief description of each of the model's factors is a hypothesis on the role of selected variables in increasing the probability of health activity in general. It does not refer specifically to the isolated actions, as one may also specify these variables for the selected type of activity, such as: smoking, maintaining normal body weight, undergoing regular medical check-ups.

5. Personal determinants of health behaviours

In the area of personal factors, belonging to the man, there were included three analytically separated groups: (a) content of health beliefs, (b) skills and competences, (c) personal-affective futures (Fig. 1).

The content of health beliefs includes, above all: recognised values and goals (both convergent and alternative to health); adopted concept of health; beliefs on determinants of its condition; recognised social standards on health behaviours and ideas about expectations for other significant, in this regard, behaviours. There may be also identified rationalisations accepted as to justify one's activity or lack of it in health area, perceived benefits and losses resulting from such an activity, as well as anticipated barriers or facilities in its implementation. There are also beliefs regarding oneself, such as: self-assessment; assessment of one's health, wellbeing and problems susceptible to modification (e.g. decline in a physical condition, weight gain); convenience of one's possibilities to influence health (location of control), self-efficacy in the implementation of activities related to health and susceptibility to diseases related to a lifestyle. Factors from this group are the variables that appear most frequently in research on determinants of health behaviour.

Skills and competences include, on the one hand, more or less settled and learned responses (e.g. skills of skiing, reducing a tension, establishing friendships; assertiveness), and on the other hand, knowledge of know-how in various behaviours important for health (e.g. ability to benefit from the health care system, use the Internet, prepare healthy meals). It is also a general ability to understand and use the content of health massages (health literacy). As conducive to health activity one may also regard a possession of general dispositions, as well as features specifically concerning the greatest possible range of potential health behaviours.

Features called personal-affective include: level of interest in issues of one's health; emotional relation to a variety of healthy or unhealthy behaviours and messages encouraging some behaviours or preventing other; susceptibility to this type of messages and social pressures (conformism); felt needs (as opposed to beliefs on needs and values) related to factors affecting health; or characteristic's traits (such as persistence, curiosity, openness to changes). Variables from this group are undoubtedly least susceptible to a modification.

6. Socio-environmental determinants of health behaviours

In the socio-environmental area (Fig. 1) one should distinguish three groups of correlated guiding factors: (a) values, standards and models of behaviour (the axionormative system), (b) institutional order and (c) infrastructure and material resources.

First group mainly consists of: legal norms, moral rules, customs and fashions concerning behaviours important for health. Here are also located standing behind these standards mechanisms of support and social control, which determine strength of their impact. Separately one may indicate social models of health behaviours, both characteristic to whole community and appropriate for "significant others" and groups of reference (positive and negative). There are also models and values deliberately disseminated in a variety of media transmissions, also created by commercial marketing. An attention should be brought

to the fact that these variables are described in the model as appropriate for socio-cultural environment in which persons operate, and not their awareness.

While the above mentioned conditions are located in the cultural area, further are closer to the structural approach of the society. Here one has to take into account presence and status in the social structure of roles, groups, organisations and institutions creating values, standards, models, expectations, facilities and limitations concerning health behaviours. One may also mention different policies (of state, employers, insurance companies, industrial concerns and other) promoting healthy (or unhealthy) life-styles, procedures of actions (including health programmes, paths of learning) and related to them forms of organisation, both directly involving people and only playing as role models (social movements, civil organisations, professional and leadership roles).

Material resources, in turn, in contrast to the above mentioned social ones, include availability of products in a given environment, infrastructures and services used to implement health activity. This group of variables includes both a presence (supply) of these elements (such as healthy food, tourist routes, sport equipment, information on health issues) and physically understood possibilities of their use, their real availability for people.

7. Modifying factors

The impact of all mentioned determinants (socio-environmental and personal guiding factors) is influenced by so-called modifying factors. There may be identified three main groups of them: (a) emerging new technologies changing both social and material side of a lifestyle, (b) characteristics of socio-demographic location, and (c) organic characteristic of subjects of health behaviours. Among the attributes of social location it is worth mentioning a level of education and financial situation which diversify a general health activity to the greatest extent. Age and gender are also important here. The organic characteristic includes current, broadly defined health status (designing needs and opportunities of an action), as well as experiences from past health biography.

8. Actions of a health promoter as determinants of health behaviours

If health promotion is a practical activity mainly aimed at shaping health activities of people, groups and organisations, it is difficult to ignore its role among all determinants of this activity. Lack of intervention actions taken under the auspices of health education and health promotion would be de facto a statement that they do not have a significant impact on shaping a behaviour, or on the contrary, that they are so perfectly efficient, that there is no need at all to think about their influence. Educational and promotional project is, after all, in many respects the same element of reality surrounding a man as any other of its elements considered in models of determinants of health behaviours.

In this model, essential actions of a health promoter (understood as a social institution, rather than a specific person) are understood in two ways. First are the projects of social influence mainly aimed at the area of personal determinants. Second are the actions introducing socio-organisational changes directed at the environmental area. In an ideal approach they may also include impacts on the processes of socialisation, interaction and perception (e.g. processes of education, marketing).

This first group, used in transformations of state of personal factors (mainly mental ones) includes traditionally conceived health education (understood as the transfer of theoretical knowledge on health issues); marketing efforts aimed at shaping emotional attitudes towards health; health behaviours and related to them objects; skill development trainings concerning desired activities and coping with side effects; or presentation to the so-called target groups the results of medical check-ups of their health. Second area of activities promoting health, that concern a stimulation of the development of communities and organisations into a direction of healthy environments (Grossmann, Scala, 1993), includes lobbying and advocacy; creation of leaders, coalitions and structures; activation of the community; stimulation to

a creation of policies; implementation of standards and regulations and other forms of support for innovation (management of changes) in health.

Generally, one may identify seven major, correlated management strategies used for improving health awareness and lifestyle of society. Some of them are implemented in the personal area (individuals or nominally recognised groups) and some in the socio-environmental one (technological, organisational, cultural surroundings, etc.).

Information approach (persuasive and educational): providing information to shape, develop or alter human beliefs, evaluations and opinions as to, basing on this knowledge, people abandon in a rational way behaviours deemed as inappropriate and start desired behaviours.

Marketing approach (emotionally-motivational): paying attention to the problem, publicising it and building around it positive or negative emotions, as people desire behaviours associated with positive emotions and reject those which are accompanied by negative feelings (e.g. fear, fear of losing health).

An approach focused on the development of personal resources: developing skills and ability to start and continue health behaviours and avoid risky ones, e.g. by enhancing self-esteem, self-efficacy, ability to cope with problems, find appropriate solutions, benefit from the support of relatives and relevant social organisations, etc.

An approach based on social impact: developing a social environment: creation of new trends, new models of behaviour (especially among the so-called "significant others" and "reference groups"), mobilisation of public opinion, activation of the community to work together for health, and cooperation in solving problems, facilitating and supporting such activities.

Regulatory approach (legal and fiscal): introduction of formal rules (standards, procedures, laws, including tax regulations) for actions conducive to health or implementation of facilities for their realisation and regulations limiting incentives or opportunities for risky activities (e.g. obligation to use seat belts, ban on tobacco advertising, legal restrictions on the freedom of smoking, increase of excise duties on alcohol, rules governing information given on food packaging).

Technical and environmental approach: creation of an infrastructure, technology development, product offerings or services for achieving healthy lifestyle: areas and recreational facilities, bike paths, sports equipment, training techniques, functional food, energy-efficient technologies, tools and new forms of communication on matters of health (including via new media).

An approach based on the improvement of social status: political activities aimed at increasing general level of education and wealth of the society, equalling opportunities in this respect, supporting socially marginalised groups and democratising social life, as the fundamental conditions to promote healthy lifestyle and factors discouraging from lifestyles damaging to health.

All strategies mentioned above may (and should) be used both in health education and health promotion.

9. Summary

A draft of the model described above has to fulfil some basic functions.

First of all, it tries to break a traditional isolation of the disciplines and theories in this subject and quite one-sided approaches to both behaviours and their determinants. Although it is exposed to the accusation of eclecticism and shortcomings in scientific precision, its role is to counter such points of view which in the quest for precision loose somewhere the essence of the subject of their research and try to tell more and more about something that becomes less important from the point of view of practical needs.

Secondly, the model indicates phenomena that should be included as a subject of comprehensive health promotion project in the community or organisation, even if there is no empirical evidence for their précised characterisation in a specific social environment. There are also those variables that (if their empirical characteristics in the environment is done) may be used to assess the effects of an ongoing implementation project. The subject of this assessment may be not only a change of health behaviour, but also a lasting change in determinants of these behaviours in the direction stimulating health activity.

Looking at the determinants of health activity (either generally or narrowly conceived) from the perspective of needs of the practice, that is implementation of educational and health promotion projects, it is also worth paying attention to the distinction between favourable and unfavourable factors to a specific form of activity. In such a perspective, among the conditions outlined in the model, one may extract those which from the perspective of health promotion should become an object of support, and those that may be the aim of a transition or even elimination. Additionally, one may note to what extent they are susceptible to methods of interaction available to health education and health promotion (in general or within a particular intervention project).

At the same time it is worth keeping in mind that every health promotion project is also a result of creative activities which elude systematic scientific procedures. Therefore, not all things may or have to subordinate to such procedures. Although the scheme presented here was also constructed for the purposes of science, it may be used in programmes of health promotion as a tool of social activation and creative work among animators and participants of the project (for their awareness of complex causes and mechanisms of dealing with their health and determinants of the effectiveness of the intervention).

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5. Methodology of the low educated employees' health education – review of approaches

Jacek Pyżalski

1. Introduction

At the start of our considerations it is worth emphasising that the education-related processes that are the subject-matter of this chapter should be distinguished from the training processes. The latter process is related with "the procedures of teaching and such procedures are imposed by environment and methods developed artificially", and is focused on enhancing "the level of human resources and providing them with a higher degree of efficiency and effectiveness" (Demetrio, 2006, p. 130).

On the other hand, the education, which is mentioned in the title of this chapter, is a broader process – it does not only cover intentional factors but also incidental and unintentional ones that sometimes have nothing to do with abilities and skills which we expect to acquire (Demetrio, 2006). Thus in this context we consider the actions that go beyond "official" training in educational facilities and the actions which require a higher degree of the recipients' activity than it is required in the case of training.

When analysing available solutions in the field of health education of adults who are members of excluded groups, it is worth considering roots of the specifics of working with such groups.

Firstly, period of development of education recipients is of importance. This group includes adults who are characterised as a group with a specific level of intellectual, social and emotional development due to the period of their life cycle (Demetrio, 2006; Dubas, 2008). The period of adulthood is filled with life challenges, and as Demetrio (2006, p.113) writes, has always been related with "a necessity to face new challenges, react to unexpected events adequately with an aid of the knowledge held, and enhance the previously acquired skills necessary to adapt to the environment". It is worth mentioning that although we consider education of adults, even when we limit our considerations to the population at working age, we should take into account at least several periods distinguished by researchers of human development. The following periods according to classifications quoted by Dubas (2006) exemplify this age range:

1) Juvenile adulthood (17-22), early adulthood (17-45) and middle adulthood (40-65) (Levinson's Classification);

2) Early adulthood (18-25), middle adulthood (25-50) and a part of the late adulthood period (50-75) (Erikson's Classification).

Thus considering education of adults, in fact we consider education of the groups which differ among themselves in a qualitative sense. This results from the fact that individual periods of adulthood mean a different stage of life (such as the stage related with professional carrier, raising children and so on).

Despite these differences there are universal principles of andragogy (science dealing with education of adults) focused on optimisation of processes of teaching and learning of adults. They include:

Principle of autonomisation – it is focused on motivating adults to recognise their educational needs and progress achieved by themselves.

Principle of interactivity – refers to the condition when adults use their own life experience in educational processes and skills to cooperate with others in the course of these processes.

Principle of adapting to the main task – involves identifying the key task that an adult has to complete in a given stage of his or her life.

Principle of immediate application – refers to practical application of the knowledge obtained in specific life situations (Knowles after Demetrio, 2006).

The issue that may result from specific patterns of behaviour in the field of health and thinking of health of low educated people constitutes the second key factor explored in the project implemented, which next to the age may contribute to specificity of education of excluded people. This field covers both abilities to processes knowledge and motivating factors connected with health issues. It should be emphasised that although this chapter concerns education of low educated people, in fact, this low education level is often connected with other issues, such as poverty. Thus the literature concerning this issue indicates a broader group of recipients, i.e. persons from sensitive groups (*vulnerables*).

2. Health education of excluded groups as a challenge for public health

methodology of health education for excluded groups in specific countries is perceived as one of the key challenges for public health and one of the key competences that should be held by public health experts (Petrakowa&Sadana, 2009). Although there is an awareness concerning the scale of this problem, educational solutions and development programmes for experts (such as the ones delivered at public health schools) specialising in this field are unable to meet the real needs (Petrakowa&Sadana, 2009).

Medical professions also address the issue of efficient communication with patients from excluded groups, as the effective communication with patients is considered to be the key condition of appropriate medical care (Schyve, 2007). Activities implemented by the Partnership for Clear Health Communication (PCHC) (Managed Health Outlook, 2007) provide an example of developing this type of educational solutions. This body is an association of American organisations interested in counteracting negative consequences resulting from low health literacy. Schwatzberg (2002) has claimed that in the twenty first century the success of medical care increasingly depends on patient's ability to understand and use health-related information. The author has also indicated that the patients who lack this information complain about their poor health condition twice as often as other patients. Moreover, they quite often ignore physician's recommendations and do not know how they should introduce changes in the field of health-related behaviours in their lives (Schwatzenberg, 2002).

It has also been established that health experts often overestimate competence of recipients from excluded groups (low educated people in particular) and inefficiently communicate with them (Manning&Kripalani, 2007). At the same time, curricula of medical studies hardly ever address the issue of efficient health communication and education of excluded groups (Manning&Kripalani, 2007).

Concluding, both experts in public health and traditional medicine clearly indicate the need of searching for solutions related with health communication and education of excluded groups, including low educated people. Insufficient theoretical and practical solutions in this field and a very rare inclusion of this issue in curricula of vocational training of experts, should also be emphasised.

In a broader context, a great majority of health education of low educated adults is included in the system of non-formal adult education (NKD), which constitutes a pillar of the lifelong learning concept (Górewska-Fett i in., 2007).

3. Methodology of health education of excluded groups – proposed typology

Before we attempt arranging solutions in the field of health education of low educated people, we would like to emphasise one aspect: currently there is very little information concerning communication methods used by professionals in order to communicate better with people with low health literacy. One of few studies in this field was carried out by Schwartzenberg and others, who asked representatives of medical professions (physicians, nurses and pharmacists) about solutions they use to improve communicating information concerning patients health. Results obtained are important as representatives of these professions not only educate patients under their health protection duties, but in the strict sense, they also often take part in health education and promotion actions. It has been established that respondents usually apply common sense methods, i.e. they use simple vocabulary (approx. 95%), distribute printed materials, such as leaflets (approx. 70%), or speak more slowly (approx. 67%). Other solutions are used less often. For instance only approximately 40% of the physicians ask their patients to repeat what they have said or invite the patient and his/her relative who could help to understand and remember the instructions. Other forms of communication, such as telephone calls in order to check whether the patient has understood and used the knowledge obtained, are used least often. When asked to identify the methods that would be most efficient in communicating with patients with low health literacy, the professionals often list techniques different from the ones they use on daily basis, which is an interesting observation. For instance, involving patient's family to help him/her is a relatively rare technique, while in the efficiency ranking it has been ranked as second. Similar observation applies to the technique of "repeating" information received – although almost 93% professionals have recognised it as efficient (ranked as third), fewer than 40% apply it routinely.

4. General principles concerning communication with people with low health literacy

emotional difficulties in communicating with a specialist have been most frequently identified barrier to efficient health communication and education of people with low health literacy. Shame caused by low self-assessment of the literacy of many patients being members of this group is the main difficulty. Thus creating the shame-free environment proposed by the American Medical Association (2000) should be recognised as the main principle. In the context of the medical facility, implementation of this principle may include the following activities:

- Involve all staff of the facilities in the processes of simplifying all the procedures and messages, both written and oral ones, used in contacts with recipients of medical services.
- Actively offer help to understand messages, and at the same time reassure the recipients that they are often misunderstood, and it is not due to the fact that the patient lacks a specific competence.
- At the level of the communication system of the facility, develop solutions that will check the patients' level of comprehension of the information before he/she leaves the facility.
- Develop a "follow-up" contact system, under which the professional will contact patient in order to check whether he/she is able to use the knowledge acquired in practice.

This principle could be also referred to as the **principle of recipient's acceptance,** including the element of his/her limitations. On the other hand acceptance and comprehension of the specifics of the recipients functioning and learning should result in application of the **principle of individualisation,** which will consider this specifics on each occasion.

Finally, it is worth applying the **principle of activating social environment of the recipient.** The American Medical Association (2000) has observed that family members or friends of the person with low health literacy may support this person in these areas where his/her competence is too low (e.g. comprehension of written materials). These persons may also accompany the patient in the educational activities.

The above principles should be recognised as certain overriding assumptions to deliver health education for vulnerable groups, including low educated people. They should be continuously taken into account, irrespective of forms, methods and teaching measures we apply.

At the conclusion, it is worth noting the situation where health education for people from vulnerable groups takes place within an institution, such as a medical or educational facility. When analysing this issue in the context of medical facilities, Schyve (2007) has observed that any related changes should be implemented with an aid of evolution-based approach, taking transformation of the overall system of these facilities into account. Implementing single and non-structured changes for which neither the recipients nor professionals are ready, may be both inefficient and lead to opposite effects than the ones expected.

5. Communication techniques applied in direct contact

Problems with communication related with health of people from excluded groups may refer to three areas (Schyve, 2007):

- Language itself – this problem applies to multi-cultural communities where linguistic competence held by the professional or recipient will be too low to communicate adequately.
- Cultural differences – may result both from a different racial or national origin of the professional and recipient, or cultural differences among different groups in the same nation. This type of cultural differences translates into different comprehension of words and different perception of various social phenomena, including health-related ones. Stereotyped perception of representatives of specific groups by the professional may also become a communication barrier.
- Low health literacy – means low competence of the recipients in the field of comprehension and application of health communication. It may result from the above mentioned differences in the linguistic and cultural competence. However it may also refer to persons representing the same culture, who hold sufficient general linguistic competence level. In this situation the problem will only affect health communication.

Although Schyve (2007) analysed the above problems in the context of the physician-patient communication, they may all occur in the health promoter (trainer) – recipient relationship.

This type of issues has been translated into recommendations referring to efficient communication with people with low health literacy. Manning&Kripalani (2007) have proposed application of the following elements in contacts with patients from excluded groups:

- Use simple messages.
- Deliver not more than 1-3 pieces of information.
- Apply the method of "repetition" by asking the patient to repeat the information provided in order to check the level of comprehension.

It is worth noting that repetition does not have to take the form of re-telling the messages delivered by the professional, but it may be reported in writing or as a presentation (demonstration) (Schwartzenberg, 2002). Apart from checking the comprehension, this method also aims at activating the recipient and making conversation with him/her more interactive – in contrast to frequently used one-sided communication, where the professional is the only active party (Schyve, 2007).

- Use of educational materials improves communication's efficiency.

Detailed guidelines concerning voice communication with people with low health literacy have been formulated by the American Medical Association's experts (2002). They recommend to slow down speech, avoid language containing complicated medical vocabulary, deliver only a few (up to three) messages at one occasion and communicate in seated position.

6. Communication techniques referring to text – educational materials

To begin with, it is worth mentioning that there are studies which indicate that people with low health literacy generally prefer to receive information "face to face", during meetings with specialists, and not printed materials – this observation applies at least to the physician-patient relation (Schwarzenberg i in., 2007).

Schwartzenberg (2002) details problems that may occur in health education (or to be more precise, in instructions how to use medication) when we use written materials. The fact that a great majority of population, low educated people in particular, suffer from the so-called functional illiteracy, is the main problem in these circumstances. Such patients find it very hard to understand even relatively easy texts, both in the context of vocabulary difficulty level and syntax of the texts. At the same time, analyses of educational materials for patients (brochures, forms, questionnaires, etc.) indicate that the language used in them is appropriate for people holding high linguistic competence. Schwartzenberg (2002) indicates that specific risk concerns written communication containing numbers (e.g. dosage, threshold blood pressure values). In such cases there is the highest risk that the lack of understanding the message will result in negative consequences to patient's health.

Recommendations of the American Medical Association (2000) addressed to people who develop educational materials for people with low health literacy mainly recommend simplification of the language (use of commonly used vocabulary). It is due to the fact that educational materials containing medical jargon are rejected or misunderstood by the group of recipients. Additionally it is recommended that simple written materials should be developed as a supplement to the communication that has taken place during the conversation. Presenting the sequence of actions to be delivered by the recipient is important in this context. Reading the written information together with the patient and underlining the crucial items also seems a good solution. Complementing written educational materials with diagrams and drawings improves their efficiency (American Medical Association, 2002).

7. Preparing specialists to work with vulnerable groups

the PCHC educational concept is based on several assumptions. Firstly, it is assumed that professionals involved in health communication are able to learn how to communicate with low educated patients. Secondly, it is necessary that the whole institution should get involved in efficient communication to support (through such activities as training) its specialists. The PCHC representatives indicate that organisations often fear that this type of activities will be costly. Such fears are irrational?. And finally, we should work on motivating specialists to encourage them to get involved in practicing new competence and use the knowledge learnt in practice. They often fear that efficient communication with "difficult" patients may cause various issues, such as significantly longer visits.

Training of medical staff with an aid of a "stimulated (standardised) patient" method is an interesting way to resolve the problem of low level of health knowledge and literacy of some patients. A training participant plays a part of a low educated person, while another one is to conduct communication processes to facilitate possibly best information flow and efficient health education. This method has been used since the 1960s to teach basic clinical skills to diagnose diseases (Manning&Kripalani, 2007). Specially prepared actors played the part of low educated people who demonstrated negative health-related behaviours (smoking and unhealthy diet). Additionally the patient preferred that health information should be communicated by family and friends, and demonstrated limited trust to medical specialists. The physician who established that the patient's cholesterol level and blood pressure had been too high was to provide him/her successfully information to motivate him/her to introduce beneficial changes in his/her health-related behaviours. The main challenge was the fact that the actors were instructed not to search for medical information actively and not to demonstrate openly that they had not understood information provided by the physician. Such an attitude is often observed among people with low health literacy, who are embarrassed of the fact that they do not understand messages concerning health and often attempt to hide their illiteracy (Shwartzenberg, 2002; Schwartzenberg i in., 2007).

At the next stage of the training, results of the exercise were discussed by all the participants to analyse the communication process quality, including the main assumptions of the communication process, i.e. simple language which is free of medical jargon, providing limited quantity of information (1-3 pieces of information) and patient's repetition applied as a technique verifying the level of comprehension of the messages delivered by the physician (Manning&Kripalani, 2007).

Due to its practical implications, this method may be used in the case of specialists who do not deal with medicine in its strict sense, such as health trainers, health promoters, including the ones who operate at workplace. Obviously such measures require that the method should be adjusted to specific conditions of their delivery. It mainly concerns focus on group education as educational activities in this context will hardly ever be delivered in the course of an individual contact, such as the physician – patient relation. It is worth noting that studies often demonstrate a limited efficiency of group training delivered by traditional methods, which do not match needs of recipients. Schwartzenberg (2002) for instance, refers to studies where patients diagnosed as diabetics took part in a five hour training delivered by a certified trainer. The training was to provide them with knowledge concerning specifics of the disease and measures they should implement to reduce negative impacts of diabetes. Differences in acquired knowledge and competence between people with low and high health literacy level were significant: at the training completion only half of the patients with low literacy level were able to list symptoms of hyperglycaemia they could experience. It was a very poor result in comparison to 94% of people demonstrating high health literacy.

One should remember that the actions delivered in the field of health education or health promotion at workplace may face barriers related with a specific social status of low educated employees at work. Steibrunn (1988) has indicated that such initiatives may be due to fears of employees themselves or of their representatives that the employer will not undertake any actions to improve working conditions, and the overall responsibility will be transferred to them. Steibrunn has emphasised that educational activities may be perceived as being imposed by the company's management, and in certain cases, such as companies that deliver medical screening, they may be used against employees. Measures implemented exclusively for low educated employees, blue collar workers in particular, may also be perceived as discriminating them as a social group in the company (while management may also demonstrate anti-health behaviours). There is also a risk that the programmes that have been imposed and do not address real needs of employees with the lowest education level (who are often at the lowest hierarchy level in the company) will not be attractive to them. And finally health education programmes often do not consider limitations related with company's organisation of work and private lives of employees (e.g. distribution of breaks at work, necessity to look after children) (Steinbrunn, 1988). Only efficient management of these issues will facilitate planning and delivery of health education programmes and health promotion for these groups. However it is clear that the related requirements significantly exceed the subject of efficient communication with the recipients (compare the above solutions by the American Medical Association, 2000). It is rather more important to build social climate based on trust and participation, which is the starting point for acceptance and involvement of low educated employees.

8. Conclusion

Problems related with efficient health education for adults from excluded groups are well known, however practical solutions and theoretical assumptions of this specific education have not been strongly developed in the context of related social needs. Moreover, the most advanced and tested in practice are these solutions that are applicable in the specific education related with communication of medical professionals with patients from vulnerable groups (although the tradition of systemic approach to this problem is not long). It is a very important area, which however significantly differs from educational activities in other environment, such as workplace. It does not mean that certain solutions or regularities tested in the "medical" context will not be helpful in other contexts.

In the context of analyses conducted, health education of "difficult" adults appears to be a problem which requires detailed analyses whose results will be possible for translating into educational activities to be delivered in practice.

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6. The low educated employees' health behaviours and awareness

Krzysztof Puchalski

1. Introduction

This chapter contains an analysis of differences among groups with different education status, which occur in the area of selected conditions of health activity. It will include these healthy lifestyle conditions that may be modified through broadly defined health education and habitat health promotion programmes. We will also cover these phenomena and features that condition perception of educational messages and as a result may impact efficiency of this type of actions. The key question is whether the low educated people more or less often than higher educated people hold such characteristics that could be identified as stimulating health-focused behaviours. And on the other hand, whether these people more or less often hold these characteristics (other than education level) that do not stimulate such behaviours. In this context, another question arises: to what extent low educated people are open to benefitting from heath education communication – the ones that would shape their dispositions towards healthy lifestyle.

The above findings will be presented on the basis of results of the studies which have been delivered four states taking part in a project. The search for differences among the groups with different education status will be delivered in the whole population surveyed, which in total includes 1691 employees (817 low educated and 874 high educated) from these four states. The study will also verify level of homogeneity of the low educated group – whether its representatives from the individual states present major differences, or in other words, we will try to generalise the results and refer them to all low educated people in all project partner states or even throughout Europe.

2. Emotional attitudes and tendency to reflection upon healthy lifestyle

Undoubtedly two aspects depending on the respondents are important to success of majority of educational activities aiming to impact healthy lifestyle. Emotional attitude towards healthy lifestyle (and related communication) is the first one, and tendency to reflect upon our own behaviours and the way they impact our life is the other.

Studies have indicated that the subject of health (presented in media, every-day talks and so on) hardly ever – only among 5% of all the employees – results in negative emotions (Table 1). It is interesting that this situation occurs more than twice as often among low educated people than in the other group. In extreme groups, which have not been presented in the table, the difference is 5 times higher: 10% among people holding the lowest education level, and 2% among people holding the highest education level.

The remaining population, i.e. people without negative emotions, may be subdivided into three groups of similar sizes, where each group represents a different attitude.

Table 1. Attitudes towards healthy lifestyle and education level – data for the whole population (in %).

"Do you often wonder whether your behaviours impact condition of your health? If yes, how often?"	**Education**		**In total**
	Low	**High**	
I am a person who gets irritated or angry when health-related subjects are mentioned"	7	3	5
I am a person who doesn't think about health on every day basis, I do not care how my behaviours impact my health.	36	24	30
I am a person who sometimes thinks a lot about the things that are bad and good for my health, and afterwards I neglect it and do not care.	32	31	31
I am a person who willingly listens what to do to be healthy, I often consider how to lead a healthier lifestyle.	25	42	34
In total N (= 100%) (p = ,000)	817	874	1691

The first group represents the attitude of people who are indifferent to the subject of healthy lifestyle. These employees usually do not take any notice of their behaviour in the context of its impact on their health condition. They hardly ever think about health, and whether their behaviours impact their health in any way. It should be noted that in the case of people with higher education level, the above findings concern every fourth person, while over 1/3 of the group of low educated people represent this attitude[1].

The above indifference is a very common phenomenon. Almost 1/3 of all the respondents (this result is similar for both groups representing different education level) admit that although sometimes they think a lot how their behaviours impact health, on every day basis they are not concerned with it, and do not translate effects of this reflection to change their behaviours. Thus in the total of 2/3 of the population, their reflection concerning relationship between lifestyle and health does not have to significantly impact their real behaviours in everyday life – because it either does not occur at all, or it is neglected.

The last attitude, which is the most frequent attitude demonstrated by the respondents, characterises these people that may be most prone to health education communication. They have admitted that they are open to new information about healthy lifestyle, and that this information is very important in their every day reflection, which is of special significance. Thus they make use (at least in the intellectual sense) of health-related information. It is important that their number is significantly lower among low educated people (25%), than among high educated employees (42%).

Thus low education is not conducive to the very interest in health education communication nor to reflection facilitating healthy lifestyles.

It is worth emphasising that the relevant group of low educated employees is not homogenous in the individual states taking part in the project (Table 2).

Table 2. Attitudes towards healthy lifestyle in the individual states – data for the group of low educated employees (in %).

"Do you often wonder whether your behaviours impact condition of your health? If yes, how often?"	**State**			
	ES	**LV**	**PL**	**SI**
I am a person who gets irritated or angry when health-related subjects are mentioned"	5	12	7	3
I am a person who doesn't think about health on every day basis, I do not pay any attention how my behaviours impact my health.	31	35	45	33
I am a person who sometimes thinks a lot about the things that are bad and good for my health, and afterwards I neglect it and do not care.	33	32	30	31
I am a person who willingly listens what to do to be healthy, I often consider how to lead a healthier lifestyle.	31	21	18	33
In total N (= 100%) (p = ,000)	202	212	203	200

[1] In several other surveys of large groups of employees, which were carried out in Poland, a significant relationship between low education level and rare reflection upon impact of people's behaviours on health, was confirmed (Korzeniowska and others 2007, Puchalski 2004).

Negative emotions related with the subject of health have been most observed among low educated citizens of Latvia (declared by 12%), while in Slovenia only 3% of the analogous group represents this attitude. On the other hand, low educated Poles demonstrate indifference towards health and their related behaviours (45% of all Polish respondents) – while in the other states approximately 1/3 demonstrate this attitude. Poles and Latvians least often consider how to lead a healthier lifestyle.

3. Behaviours favourable for health

let's now consider whether it is not only reflection itself but also employees' health-related behaviours that are different due to different level of education,

It is also an attempt to confront data for populations of employees, with the general thesis that low education does not stimulate care for one's health.

In order to establish the level of the respondents' health-focused activity, we asked them about occurrence of several selected behaviours that are of significance to good health condition. This issue was presented under the general structure – respondents were asked whether they try to demonstrate these behaviours in their everyday life, and details of such actions were not covered by the analysis (Table 3).

Table 3. Selected behaviours favourable for health versus education level – data for the whole population (in %).

"Do you try to ..."	Education			
	Elementary	Basic vocational	Middle	High
Limit consumption of sugar and sweets	38	43	51	59
Limit consumption of fats	45	50	62	69
Look after your physical fitness, exercise, practise sports	36	41	49	57
Avoid drinking alcohol or drink it in small quantities	76	71	75	77
Regularly undergo medical check-ups to exclude diseases	28	31	36	41
Work in the way that will minimise risks for your health	66	57	66	74
In total N (= 100%)	369	448	433	441

We have discovered that the data concerning the subject of variety of health-focused actions in relation to education level is not consistent – although we may generally state that low educated employees look after their health less often through adopting the lifestyle favourable for health. To be more specific, we may observe than the lower the education level is, the less often respondents try to limit sugar and fat consumption or look after their physical fitness. They also less often undertake medical check-ups to prevent diseases. However respondents of all the education level groups present nearly the same relation to alcohol consumption. Similarly it is hard to identify clear differences in the field of health care at workplace – although generally low education, and basic vocational education in particular, seems to facilitate this attitude on less frequent basis (this aspect will be presented more detailed in the next sub-chapter).

Behaviours of low educated employees differ from state to state (Table 4).

In the group of low educated employees, generally employees from Spain and Slovenia most often present behaviours favourable for their health, while Poles and Latvians present them twice as seldom. This regularity does not only refer to limiting alcohol consumption, and is hardly visible in the context of health care at work (besides Latvia representatives clearly least often try to conduct regular medical check-ups).

Table 4. Selected behaviours favourable for health in the individual states – data for the group of low educated employees (in %).

"Do you try to ..."	State			
	ES	LV	PL	SI
Limit consumption of sugar and sweets	53	22	33	55
Limit consumption of fats	59	35	35	62
Look after your physical fitness, exercise, practise sports	59	26	21	49
Avoid drinking alcohol or drink it in small quantities	75	71	68	78
Regularly undergo medical check-ups to exclude diseases	48	7	23	43
Work in the way that will minimise risks for your health	79	47	59	59
In total: N (= 100%)	202	212	203	200

4. Looking after one's own health at work

more than every third employee thinks that his/her work and working conditions harm their health. On average, every second respondent holds the opposite opinion, i.e. that their work is not harmful to their health. It has also been established that there are no significant differences among different education level groups in the context of perceiving negative impact of work on health. However less educated employees slightly less often (p = ,000) are of an opinion that their work does not affect their health, and more often declare that they have never considered such impact (13% of the low educated employees and two times fewer of the high educated employees).

Low educated employees more often admit that they neglect their health at workplace on everyday basis. They are also more often of an opinion that they do not have to bother to comply with health protection regulations if there are no penalties for disregarding them. Besides they slightly less often try to learn how to protect their health at work (Table 5).

Table 5. Relation to health at workplace versus education level – data for the whole population (in %).

"Do you agree with the following statements:"	Opinion	Education	
		Low	High
I often neglect my health at workplace, on everyday basis	Yes (definitely yes and rather yes)	55	45
	No (definitely no and rather no)	38	50
	Hard to assess	7	5
	In total (p = ,000)	100	100
It is worth complying only with these health and safety regulations for which there are penalties if they are not observed	Yes (definitely yes and rather yes)	23	11
	No (definitely no and rather no)	65	82
	Hard to assess	12	7
	In total (p = ,000)	100	100
I try to learn as much as possible how to work in order to avoid ailments, disease and accident	Yes (definitely yes and rather yes)	53	59
	No (definitely no and rather no)	40	35
	Hard to assess	7	6
	In total (p = ,01)	100	100

These results generally indicate that although the differences between people of different education level are not major in the context of their attitude towards health at work, low educated employees are more prone to neglect their health, especially when they are not clearly obliged to protect it. Besides, within the group of respondents who admit that they do not look after their health at workplace, low educated employees clearly less often see the need of being more protective during work (see Table 6).

It is also worth emphasising differences in the field of studied issues, which distinguish representatives of low educated employees in the individual states. In general, low educated Slovenians most often address negative impact of work on health (more than every second respondent). Poles address this issue least often (28%). On the other hand, low educated Latvian employees most often are unable to assess impact of work on their health (almost 30%, while in the remaining states this ratio varies between 5% to 13%). It is also Latvian respondents that most often admit that they neglect their health at workplace (3/4 of low educated Latvian employees, while in Poland this ratio reaches only 1/3). Latvians and Poles are most often disinterested in safety at work information in comparison to the populations in the other states: approx. 40% of low educated Latvians and Poles search for this information, while in Spain this ratio reaches over 70% of the equivalent group.

5. Sensing the need of implementing health-focused actions

People who do not implement the above health-focused actions in their everyday life have been asked whether they think that such actions would be favourable for their health.

Table 6. Need to undertake the selected health-focused actions declared by the respondents who do not implement them – data for the whole population (% of the respondents declaring that they need to implement such actions to improve their health)

"Would it be good, necessary for your health to...?"	Education			
	Elementary	Basic vocational	Middle	High
Limit consumption of sugar and sweets (p = ,001)	27	31	35	34
Limit consumption of fat (p = ,01)	46	42	58	49
Look after your physical fitness, exercise, practise sports (p = ,001)	66	69	78	80
Avoid drinking alcohol or drink it in small quantities (p = n. i.)	46	41	51	47
Regularly undergo medical check-ups to exclude diseases (p = ,01)	62	52	62	64
Work in the way that will minimise risk to your health (p = ,001)	51	58	65	75

Awareness of the need to live a healthy lifestyle among the people who do not do it, within the whole group mostly refers to concern for physical fitness, regular medical check-ups and safety at work. This need is usually observed among high educated employees. It mainly refers to concern for health at workplace, but also to concern for physical fitness. Other differences also occur (such as changes in diet), however they are not distinctive enough to discuss difference between low and high educated people (Table 6).

These low educated employees that do not live a healthy lifestyle are not a homogenous group in this context, and they differ depending on the state of their residence (Table 7).

In general, the need for healthy lifestyle is least often observed (except for physical fitness and limited alcohol consumption) among low educated Latvian employees, who so far have been passive in this field. They are also most often unable to assess this need – and that is why they least often provide negative answer in this context. In relation to the other states, negative answer with respect to the need of conducting health-focused behaviours is provided by the Spanish. If they see the need of implementing such actions, they propose to limit fat consumption more often than the other national groups. Poles want to limit alcohol consumption, undergo medical check-ups and look after their health at workplace more often than employees from the other states. Slovenians see the need to limit sugar and look after their physical fitness more often than the others.

Table 7. Need to implement selected health-focused actions declared by people who do not implement them – data for the group of low educated employee in individual states (in %).

"Would it be good, necessary for your health to...?"		State			
		ES	LV	PL	SI
Limit consumption of sugar and sweets (p = ,000)	Yes	36	14	40	47
	No	51	31	33	26
	Hard to assess	13	55	27	27
In total N (= 100%)		94	165	135	89
Limit consumption of fat (p = ,000)	Yes	56	28	50	51
	No	40	16	28	24
	Hard to assess	4	56	22	25
In total N (= 100%)		82	138	129	76
Look after your physical fitness, exercise, practise sports (p = ,000)	Yes	66	63	65	79
	No	29	3	19	7
	Hard to assess	5	34	16	14
In total N (= 100%)		83	156	160	101
Avoid drinking alcohol or drink it in small quantities (p = ,000)	Yes	35	38	52	45
	No	45	3	31	39
	Hard to assess	20	59	17	16
In total N (= 100%)		49	61	65	44
Regularly undergo medical check-ups to exclude diseases (p = ,000)	Yes	58	50	66	54
	No	27	8	19	19
	Hard to assess	15	42	15	27
In total N (= 100%)		105	193	157	113
Work in the way that will minimise risk to your health (p = ,000)	Yes	61	40	67	62
	No	24	2	22	13
	Hard to assess	15	58	11	25
In total N (= 100%)		41	112	83	81

6. Employees' willingness to develop their knowledge on how to look after their health

The next issue is whether education level differentiates the very willingness to acquire health-related knowledge and openness to the information how to live a healthier lifestyle.

More than every second low educated respondent and 2/3 of the respondents with the highest education level declare that they would like to learn more how to look after their health. On average, in the whole population, every fourth person recognises that he/she holds sufficient relevant competence and does not wish to develop his/her knowledge – this is more often observed among low educated employees (Table 8).

It seems that this attitude is also accompanied by an opinion that "sometimes it is better to know less about your health". This attitude is common in this group: 48% low educated employees express this opinion, and only 19% respondents from the other group (Table 9). On the other hand, this opinion may refer more to information concerning respondents' own health rather than the knowledge concerning methods of looking after their health. Nevertheless it also indicates generalised attitude to prevention.

Table 8. Declared willingness to improve health-related knowledge versus education level – data for the whole population (in %).

"Do you want to learn more how to look after your health?"	Education			
	Elementary	Basic vocational	Middle	High
My current knowledge is sufficient	31	27	24	20
I would like to learn more	55	50	62	67
Hard to say	14	23	14	13
In total N = 100% (p = ,000)	368	447	433	440

Table 9. Attitude of small openness to information about one's health versus education level – data for the whole population (in %).

Statement:	Opinion	Education			
		Elementary	Basic vocational	Middle	High
"sometimes it is better to know less about your health" (p = ,000)	I agree	48	38	31	19
	I disagree	44	53	58	73
	Hard to assess	8	9	11	8
In total N = 100%		369	448	433	441

Analysis of differences (p = ,000) among the states in the group of low educated people indicated that mainly Poles (45%) and Slovenians (34%) recognise that the level of their knowledge on how to look after one's health is sufficient, where this percentage for Latvian and Spanish respondents has reached less than 20%. Over 70% Spanish respondents, every second Latvian and Slovenian, and only every third Pole representing the low educated group would like to learn how to look after their health. Consequently these are Poles (56%), and Latvians (54%) that most often share the "sometimes it is better to know less about your health" opinion. Slovenians least often disagree with this opinion (67%).

7. Self-assessment of the respondents' knowledge in the field of concern for their health

The next important issue is to check whether resistance to develop health-related knowledge, which is more frequent among low educated people, may result from their belief that their current relevant knowledge is already at a good level. We may assume that awareness of unsatisfactory quality of this knowledge will facilitate openness to new information. Differences in such a subjective evaluation in relation to education level are presented in Table 10.

Table 10. Subjective evaluation of the knowledge held in the field of respondents' knowledge related with concern for their health versus education level – data for the whole population (in %).

"How do you rate your knowledge on how to look after your health?"	Education			
	Elementary	Basic vocational	Middle	High
Very good	7	9	10	11
Good	36	42	49	56
In total good:	43	51	59	67
Satisfactory	36	28	26	24
Unsatisfactory	12	10	10	3
Hard to assess	9	11	5	6
In total N = 100% (p = ,000)	368	447	432	440

Generally, only few respondents rate their knowledge as unsatisfactory, while 80-90% rate it to be at least satisfactory. Large groups of respondents (43% of the respondents with the lowest education level and 67% of the respondents with the highest education level) even rate it as good or very good. The higher the education, systematically the higher self-assessment of this knowledge becomes.

However material (p = ,000) and significant differences have been observed in the different states. In general, in Slovenia and Spain the minimum of 60% respondents representing this group rated their knowledge as good, while in Poland and Latvia only slightly over 1/3 of the respondents shared this opinion. However nearly half of Poles rate their knowledge as satisfactory, while in Latvia this ratio reaches only 28% (in comparison to the other states, Latvian respondents granted the highest number of unsatisfactory grades – 22%).

8. External evaluation of the knowledge correctness

Employees' knowledge on healthy lifestyle may be perceived in another aspect and analysed whether it is consistent with the findings of medical sciences. In other words, this issue does not concern self-assessment of the knowledge held but of the actual knowledge (evaluated by external assessors) of impacts generated on health condition by various factors.

Employees' knowledge on healthy lifestyle has been tested to check whether the respondents are able to identify general direction of the impacts (good or bad) on health conditions, such as nutrition-related factors: LDL cholesterol, polyunsaturated fatty acids, cellulose, free radicals and antioxidants. At present these issues are the subjects of many educational and media-based types of communication – thus we may expect that there is a good knowledge of these phenomena. The relevant findings are presented in Table 11.

Table 11. Knowledge concerning impacts of selected factors on health versus education level – data for the whole population (in %).

Factor	Knowledge of its impact on health	Education			
		Elementary	Basic vocational	Middle	High
Cellulose	Correct	67	79	85	91
	Incorrect	11	3	3	3
	No opinion	22	18	12	6
In total (p = ,000)		100	100	100	100
LDL cholesterol	Correct	39	47	50	50
	Incorrect	11	13	19	14
	No opinion	50	40	31	36
In total (p = ,000)		100	100	100	100
Polyunsaturated fatty acids	Correct	21	34	42	46
	Incorrect	26	27	28	28
	No opinion	53	39	30	26
In total (p = ,000)		100	100	100	100
Free radicals	Correct	15	16	18	18
	Incorrect	38	51	54	64
	No opinion	47	33	28	18
In total (p = ,000)		100	100	100	100
Antioxidants	Correct	12	20	18	20
	Incorrect	18	27	33	36
	No opinion	70	53	49	44
In total (p = ,000)		100	100	100	100

Insufficient knowledge concerning impacts of most of the selected factors on health has been observed in the whole population – which either results in admitting that the information resources held are insufficient or indicates that respondents have incorrect beliefs that are subjectively considered to be true (Table 11).

Low educated people in general less often provide correct answer. At the same time they reveal their uncertainty – by admitting that they are unable to specify the impact of the selected tested factor on health (which may be due not only to insufficient information of its impact on health, but also due to misunderstanding of the term itself).

In this context, it is worth noting another phenomenon: better educated people in some cases (mainly when they were asked to assess impact of free radicals and antioxidants on health) significantly more often represented incorrect opinion – instead admitting that they do not hold relevant knowledge[2].

Comparative study of this knowledge held by low educated employees from different states demonstrates that frequency of correct beliefs and extent of dissemination of correct knowledge is different with respect to its various areas / topics. For instance, in general the respondents from all the states hold correct knowledge concerning impacts of cellulose and cholesterol, while the knowledge concerning impacts of fatty acids is common in some states and rare in others. In each state, only few respondents (both low and high educated) understood impacts of free radicals and antioxidants on health.

9. Ability to understand terms

Ability to understand terminology used to describe cause-effect dependencies in the field of health is the basis to acquire many types of competence (intellectual ones at least) useful for healthy lifestyle. Table 12 illustrates the percentage of respondents from the specific education level groups, who do not understand general and colloquially described meaning of selected terms and notions – they either admit it openly or provide incorrect answers.

Table 12. The lack of understanding of general meanings of selected terms versus education level – data for the whole population (in %).

Term	Education			
	Elementary	Basic vocational	Middle	High
Healthy lifestyle	18	16	9	5
Disease prevention	27	19	9	3
Passive smoking	17	18	11	8
Cholesterol	37	24	16	9
BMI – body mass index	33	28	14	12
Healthy eating pyramid	36	31	21	15
N = 100% (in each case p = ,000)	368	447	432	440

It has turned out that approx. 1/5 – 1/3 of low educated employees do not know even most general meaning of the terms which are commonly used in health-related messages, such as healthy eating pyramid, cholesterol, body mass index, passive smoking and even disease prevention and healthy lifestyle. This significantly distinguishes them from high and middle educated people, whose lower percentage represents the lack of understanding of these words. In general, the lower the education level is, the more often the lack of understanding occurs.

It should be also noted that some of these terms are understood better and some worse. The commonly understood terms include the ones that are more general and disseminated by media (such as healthy lifestyle), while the terms that concern detailed knowledge are more often misunderstood.

[2] Other European studies confirmed occurence of similar phenomena, which refer to comprehension of information placed on packaging for food products (Federacja Konsumentów, 2007).

The issue of comprehension of terms also concerns skills of making minor calculations, such as calculation of a dosage of prescribed medication or alcohol contents in various beverages. Low educated people clearly more often find it difficult – the lower the education level is, the higher percentage of respondents do not cope with calculating the correct result by themselves or even with selecting the right answer from multiple potential answers. Thus it is hard to envisage that messages that require mathematical skills, even the ones that seem to be straightforward, will be understood correctly (thus used correctly) by the groups of both low and high educated employees comprising the same number of members.

Groups of low educated employees representing various states differ by a degree of dissemination of knowledge concerning the analysed terms (Table 13).

Table 13. The lack of knowledge of general meaning of selected terms – data for the group of low educated employees in the individual states (in %).

Term (in each case p = ,000)	**State**			
	ES	**LV**	**PL**	**SI**
Healthy lifestyle	15	25	19	8
Disease prevention	27	44	10	8
Passive smoking	21	28	7	12
Cholesterol	31	50	26	10
BMI – body mass index	21	48	35	16
Healthy eating pyramid	37	35	35	26

In comparison to the other states, respondents from Slovenia most often demonstrate understanding of general meanings of selected terms in the field of concern for health while respondents from Latvia demonstrate it least often. In some cases, difference between these states reach as much as 40 percentage points. Spain's relevant statistics are similar to Latvia's, while Poland's, to Slovenia's.

10. Perseverance in changes to lifestyle

A psychological disposition referred to as perseverance (a consequence in pursuing to continue an action and permanency of the decision made) is an important feature that impacts delivery of health-focused actions. On average, in the whole population of respondents, every second person declares perseverance in delivery of initiated health-focused actions. The lower the education level is, the less frequently such consequent people are observed (Table 14).

Table 14. Assessment of respondents' own perseverance in delivery health-focused behaviours versus education level – data for the whole population (in %).

"When you start doing something to improve your health, fitness, appearance or body shape (e.g. use special diet or exercise), are you persistent in this behaviour?"	**Education**			
	Elementary	**Basic vocational**	**Middle**	**High**
Definitely persistent	12	12	15	18
Rather persistent	30	34	40	42
In total: Persistent	42	46	55	60
Rather little persistent	25	23	26	27
Definitely not persistent enough	17	10	10	8
In total: Little persistent	42	33	36	35
Hard to assess / I do not do such things	16	21	9	5
In total (p = ,000)	100	100	100	100

Better education means that its holder is persistent, however it has little impact on admitting that one lacks perseverance[3].

Analysis of differences among low educated employees, which occur in the individual states, has indicated that in general health-focused actions it is most often (p = ,000) Spanish and Slovenians that are persistent (approx. 60% in each of these states), while Poles (35%) and Latvians (25%) demonstrate this characteristics significantly less often.

11. Internal sense of control

Belief that an individual holds large potential to implement health-focused actions and that it is easy to achieve, and that it is he or she, and not some external forces or other people, that is capable of selecting the type of behaviour and in consequence have good health, is the next variable important to live a healthy lifestyle.

In order to establish the sense of control perceived in the above context, the respondents who confirmed that they implemented the above health-focused actions, have been asked whether they found it easy to achieve. On the other hand, the respondents who do not behave favourably for their health have been asked whether it would be easy for them to start implementing such actions. The questions addressed all the behaviours presented in Table 3 respectively.

Results for the whole population surveyed indicated that people who implement the specific healthy lifestyle elements clearly more often than the people who do not, were of an opinion that health-focused behaviour is easier. In other words, people who are active in the area of health, often have more developed internal sense of control (Table 15).

Table 15. Sense of control among people who implement health-focused actions and among those who do not implement them – data for the whole population (in %).

"Is it / or would it be easy for you to...?"	**% respondents who were of an opinion that ...**	
	It would be easy (respondents who demonstrate health-focused behaviours)	**It would be easy (respondents who do not demonstrate health-focused behaviours)**
Limit consumption of sugar and sweets	60	40
Limit consumption of fats	65	34
Look after your physical fitness, exercise, practise sports	73	27
Avoid drinking alcohol or drink it in small quantities	88	54
Regularly undergo medical check-ups to exclude diseases	82	42
Work in the way that will minimise risks for your health	71	21

It turns out that dissemination of internal sense of control differs depending on various types of behaviours. Respondents have declared that most often they can control (they find it easiest) limiting alcohol consumption and regular medical check-ups – this observation is true both for the respondents who are health-focused and for the ones who are not. However situation is not so clear in the case of other actions, such as limiting consumption of sweets, as this action is most often declared to be easy by people who do not implement this behaviour, while those who give up sugar consumption hardly ever identify it as an easy task in comparison to the other elements of healthy lifestyle.

In the group of health-focused respondents, in none of the above cases of behaviours, employees with different education level do not significantly differ in this context. However the group of passive people (those who do not implement any health-focused actions), low educated employees slightly more

[3] This phenomenon is also confirmed in other studies conducted for large populations of employees, which have been delivered in Poland (Puchalski, Korzeniowska 2004)

often (p = ,002) declare that they would find it difficult to limit alcohol consumption and undergo medical check-ups on systematic basis.

Analysis of differences among the states within the group of low educated respondents has indicated that representatives of the individual states are statistically significantly different in the context of dissemination of internal sense of control in the case of majority of the behaviours surveyed. It is true both in the case of people who demonstrate health-focused behaviours and in the case of those who do not. However it is difficult to identify regularity in these differences. To illustrate this status, we may only indicate that among the people who live a healthy lifestyle, low educated Latvian and Spanish citizens least often (and with the highest number of behaviours) declare internal sense of control, while Slovenians declare it most often. As regards people who are not very concerned about their health, these are also Latvians who least often demonstrate this characteristics.

12. Observed patterns of behaviour and social support

factors that facilitate healthy lifestyle behaviours include common occurrence of these behaviours in immediate social environment (disseminated patterns of health-focused behaviours), and support provided by the community, i.e. understanding, acceptance, praise, joint actions and finally diverse assistance in this area. Support of co-workers, family and friends seem to be of special importance.

All employees participating in the survey have been asked – as observers of these phenomena – about patterns of health-focused behaviours in their work environment and support to these behaviours offered by their co-workers. These questions included several selected behaviours constituting healthy lifestyle as it is universally perceived. This data for two different groups of education level, is presented in Table 16.

Table 16. Observed patterns of health-focused behaviours and social support for these behaviours at workplace – data for the whole population (in %).

"How do your co-workers usually react when someone attempts to..."	Education	Recently I have not observed such situations	Reaction of your co-workers (males / females)			
			They are disinterested	They praise, admire	They want to help	They disturb, ridicule
Give up or limit smoking (p = ,001)	low (100%)	29	19	30	14	8
	high (100%)	23	19	36	16	6
Lose weight (p = ,000)	low (100%)	26	24	28	13	9
	high (100%)	21	22	36	15	6
Limit or give up consumption of sweets (p = n. i.)	low (100%)	29	32	19	15	5
	high (100%)	26	34	22	14	4
Limit consumption of fatty food (p = n. i.)	low (100%)	30	32	22	11	5
	high (100%)	25	36	25	11	3
Jog, swim, exercise (p = ,000)	low (100%)	29	24	31	12	4
	high (100%)	18	26	41	12	3
Regularly undergo medical check-ups, such as blood and urine tests, x-ray (p = ,000)	low (100%)	35	34	19	9	3
	high (100%)	29	36	26	8	1
Take vitamins, supplements (p = ,01)	low (100%)	27	43	17	9	4
	high (100%)	26	44	21	6	3
Attend courses to learn how to look after health (p = ,05)	low (100%)	39	34	17	6	4
	high (100%)	40	33	19	6	2
Amend methods of work to make it safer, healthier (p = ,01)	low (100%)	33	29	22	13	3
	high (100%)	32	24	29	13	2

Table 17. Observed patterns of health-focused behaviours and social support to these behaviours at workplace – data for the group of low educated employees in the individual states (in %).

"How do your co-workers usually react when someone attempts to..."	**State (= 100%)**	**Recently I have not observed such situations**	**Reaction of your co-workers (males / females)**			
			They are disinterested	**They praise, admire**	**They want to help**	**They disturb, ridicule**
Give up or limit smoking (p = ,000)	ES	32	22	21	19	6
	LV	38	15	27	4	16
	PL	21	26	35	12	6
	SI	25	15	35	20	5
Lose weight (p = ,000)	ES	25	23	23	19	10
	LV	37	21	25	4	13
	PL	23	32	32	8	5
	SI	19	19	32	22	8
Limit or give up consumption of sweets (p = ,000)	ES	23	29	10	29	9
	LV	41	30	18	5	6
	PL	26	40	24	8	2
	SI	25	28	23	20	4
Limit consumption of fatty food (p = ,000)	ES	31	29	18	20	2
	LV	40	28	23	3	6
	PL	28	40	22	5	4
	SI	21	30	27	17	5
Jog, swim, exercise (p = ,000)	ES	21	26	25	23	5
	LV	43	18	28	7	4
	PL	31	28	32	6	3
	SI	19	23	39	14	5
Regularly undergo medical check-ups, such as blood and urine tests, x-ray (p = ,000)	ES	32	29	22	16	1
	LV	58	25	9	1	7
	PL	28	52	15	5	0
	SI	21	31	32	13	3
Take vitamins, supplements (p = ,000)	ES	25	41	22	10	2
	LV	41	41	8	4	6
	PL	24	50	14	7	5
	SI	17	42	23	14	4
Attend courses to learn how to look after health (p = ,000)	ES	30	30	26	10	4
	LV	58	31	5	2	4
	PL	38	41	13	4	4
	SI	29	33	24	8	6
Amend methods of work to make it safer, healthier (p = ,000)	ES	20	28	24	27	1
	LV	49	25	19	4	3
	PL	36	38	17	6	3
	SI	26	23	29	17	5

Approximately 70% of all the respondents have observed that their co-workers implement health-focused actions listed in the table (at least some of them). Better educated people are usually quite certain that their colleagues at work live a healthy lifestyle – this has not been observed in the case of less educated people. Thus better educated people are more exposed to impacts of the social patterns of behaviours.

On average, every third respondent is of an opinion that his/her co-workers who undertake various actions to improve their health are not supported by their co-workers (they face indifference). Small percentage of respondents have even declared that they experience obstacles created by their co-workers. Both groups representing different education levels perceive this aspect similarly, although obstacles created by their co-workers are slightly more often observed by the low educated group.

Approximately ¼ – ½ of the respondents (this result varies depending on the type of action) declare that their co-workers who try to do something favourable for their health are supported by other co-workers, and it is not limited to expression of praise or admiration, but it also includes help (which has been observed by a small percentage of respondents). Low educated people usually less often than better educated ones notice the fact that their colleagues who live healthily are admired and praised.

Co-workers' response at health-focused actions implemented by their colleagues takes different forms depending on the type of action. Most often support is provided to people who start exercising, give up smoking or start slimming diets (although in the cases of the two last behaviours, they also most often face obstacles). Least support is offered to those who attend health-related courses, take dietary supplements and regularly undergo medical check-ups.

Receiving support from family and friends is a separate issue. Among health-conscious respondents, approx. 70% have declared that they experience understanding of their family and friends towards this type of behaviours. Opinion concerning this issue was shared by both low and high educated people.

It is worth to re-consider health-focused patterns and related support at workplace among low educated employees in the individual states (Table 17).

The survey has demonstrated that patterns of health-focused behaviours of their co-workers are least often observed by low educated representatives of Latvia. On average, every second respondent has not noticed that their co-workers have implemented any of the surveyed behaviours. On the other hand, patterns of most of these behaviours have been observed by Slovenian employees, and only slightly less often by respondents from Spain and Poland. In each of the three states, on average, 1/5 – 1/3 respondents have not observed health-focused behaviours among their co-workers.

In comparison to the other states, Poles living a healthy lifestyle most often face indifference of their colleagues with respect to each of the analysed behaviours, while low educated employees from Spain and Slovenia relatively most often receive help of their co-workers. Praise for healthy-focused behaviours distributes differently in each state for each behaviour.

Psychological support (perceived as acceptance and understanding) provided by family and friends to those who attempt to live a healthy lifestyle has a slightly different structure (Table 18).

Table 18. Support by family and friends experienced by people who live a healthy lifestyle – data for the group of low educated employees in the individual states (in %).

How do your family and friends usually react when you attempt to....?"	**State**			
	ES	**LV**	**PL**	**SI**
Limit consumption of sugar, sweets (p = , 000)	54	57	87	74
Limit consumption of fat (p = ,000)	44	68	89	81
Look after your physical fitness, exercise, practice sports (p = ,000)	52	93	90	71
Avoid drinking alcohol or drink it in small quantities (p = ,000)	43	83	90	79
Regularly undergo medical check-ups to exclude diseases (p = ,000)	60	79	98	87
Work in the way that will minimise risks for your health (p = ,000)	47	84	89	80

In this aspect it has been generally established that this support is most often offered (approx. 90% on average) to low educated Poles (and they seldom receive support of their co-workers). Spanish family and friends offer this type of support least often (just above 50% on average).

13. Self-assessment of health condition

Health-focused activity and its direction may be an outcome of a self-assessment of health conditions, while the related dependencies may be versatile.

The survey has generally confirmed a familiar regularity that less educated people perceive their health condition to be worse (Table 19). Respondents from the group representing the lowest education level twice as often than respondents with the highest education level declare that their health condition is poor – however such an assessment is made by only approximately 6% of the whole population. Less educated respondents also more often complain about ailments, and they less often admit that their health is in good condition. On average, in the whole population over 60% perceive themselves to be in good health condition.

Table 19. Self-assessment of the health condition versus education level – data for the whole population (in %).

"How do you assess your health condition?"	**Education**			
	Elementary	**Basic vocational**	**Middle**	**High**
I am a healthy person	55	59	61	67
I am often bothered with some health problems, however they are minor ailments	37	35	34	29
My health condition is poor	8	6	5	4
N = 100% (p = ,005)	369	448	433	441

Less educated people also significantly more often declare that in the past year their health condition (disease, ailment, injury) significantly hampered performance of their occupational tasks or any other important tasks, or even made it impossible.

Comparison of health-related self-assessment carried out exclusively by low educated employees in the individual states has indicated that citizens of Latvia least often enjoy good health, while Slovenians enjoy it most often (Table 20).

Table 20. Self-assessment of health condition by low educated employees in the individual states.

"How do you assess your health condition?" (p = ,000)	**State (= 100%)**			
	ES	**LV**	**PL**	**SI**
I am a healthy person	60	45	52	72
I am often bothered with some health problems, however they are minor ailments	37	42	41	23
My health condition is poor	3	13	7	5

It is interesting that in comparison to the rest of the states, Spanish respondents assessed their health condition relatively well, twice as often (36%) than in the other states (approx. 17%), however they consider themselves to suffer from chronic diseases, which results in permanent contact with physicians, receiving medication and regular check-ups. On the other hand, Spanish citizens twice as seldom (9%) than in the other states (approx. 17%) admit that in the past year disease significantly hampered performance of their social roles, including occupational ones.

14. Self-assessment of financial status

Financial status identified through subjective assessment is the last issue that should be presented in this paper, as it strongly impacts health-related awareness, behaviours and health condition itself.

On average, approximately 5% of the whole population surveyed have declared that they are wealthy, less than 60%'s rate their living standard as average, while 1/3 admit that it is low.

Table 21. Self-assessment of financial status versus education level – data for the whole population (in %).

"How do you assess your financial status?"	Education			
	Elementary	Basic vocational	Middle	High
My living standard is rather high	3	5	6	7
My living standard is average	48	54	61	68
My living standard has to be rather low	49	41	33	25
N = 100% (p = ,000)	369	448	433	440

The lower the education is, the more often (double difference between the extreme groups) people declare that their living standard has to be low. Less often respondents indicate that their living standard is average. Low educated people also less often declare high living standard – the lower the education, the less often (Table 21).

Differences in the assessment of the living standard among low educated representatives of the individual states are presented in Table 22.

Table 22. Self-assessment of financial status – data for the group of low educated employees in the individual states (in %).

"How do you assess your financial status?" (p = ,000)	State			
	ES	LV	PL	SI
My living standard is rather high	4	2	7	2
My living standard is average	40	53	52	61
My living standard has to be rather low	56	45	41	37

Spanish low educated employees most often declare low financial status (they need to live decent life), while Slovenians declare it least often. Average living standard has been declared in the reverse order – most often in Slovenia and least often in Spain. Ratings delivered in Latvia and in Poland are closer to Slovenian ones. In Poland, a relatively large group of low educated employees who have declared high living standard (every 13th respondent) deserves attention (Table 22).

15. Conclusion

The survey findings presented above have indicated that employees with a lower education level (in relation to better educated ones) cumulate many features that negatively identify their health potential – both in the sense of indicators of this potential and conditions thereof: for instance low educated respondents rank their health condition as worse, and in general, they less often live in a way that could improve their health. They also less often think and feel in the way that could invite them to correct their behaviours to benefit their health. Moreover, they less often hold competencies that could help them to look after their health better through living a healthy lifestyle. In their environment, low educated employees usually less often come across such factors that facilitate healthier lifestyle – starting with health-focused patterns of behaviours, social support for their implementation and objective possibilities resulting from such factors as financial status. Although in some situations the differences between low and high educated employees were insignificant, in terms of statistics, they were material and clearly oriented. Moreover the very fact of cumulation of so many negative characteristics observed among low educated employees indicates that their general health-related status requires special attention.

However low educated employees are not a homogenous group in the context of intercultural differences. Representatives of the states participating in the projects have often been distinctly different with respect to a degree of dissemination of the above listed negative aspects of health-related potential among them. It requires that the social and cultural dimension should be taken into account when we attempt to generalise survey findings and resulting conclusions.

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7. The low educated employees' preferences for health education and promotion

Elżbieta Korzeniowska

1. Introduction

The previous chapters discussed chosen ways of thinking about health together with its determinants and health actions undertaken by employees, in particular these with low level of education. On the one hand, such conclusions may be regarded as an objective indicator of the demand for health education and health promotion. On the other hand, they may be perceived as a broad base in which subjective expectations towards projects of this kind crystallize.

The very chapter will describe employees' preferences concerning solutions used in health education and health promotion. First of all, the popularity ranking of ways of delivering knowledge and improving medical skills will be discussed. Then, there will be presented a content which, according to the respondents, should be provided in health messages to members of their societies. Another part of the chapter will focus on the presentation of employees' opinions and beliefs concerning health trainings. First, their general attitude towards this type of projects will be discussed, as it determines a potential readiness to take part in such actions. Further consideration will be given both to means by which one may increase interest in trainings among employees, especially these low educated, and situations which should be avoided in order not to discourage them from taking part in such trainings. In the chapter the problem of who is considered best trainer during such courses will be discussed too. In conclusion, there will be presented expectations towards company as an institution which may engage in activities aimed at maintaining and improving health of the staff.

The analysis of the preferences described above will be conducted in two dimensions. The first and basic aim is to compare low and better educated employees of all the countries surveyed in order to indicate specific needs of the first group, considered as an important recipient of actions concerning health education and health promotion. The data will therefore include 817 respondents with incomplete primary, primary, lower secondary and basic vocational education (levels 0-2 and 3C according to ISCED 1997) and 874 graduates of secondary school or higher (level 3A-B and 4-6 according to ISCED 1997).

The second goal is a comparison of low educated employees from different countries (the analyzed groups contained 202 Spaniards, 212 Latvians, 203 Poles and 200 Slovenes), which is a way of defining the role of socio-cultural factors in the area of expectations concerning educational and promotional projects in health.

As for the practical implications of these studies, such as recommendations for health education and health promotion, their general nature should be remembered. It means that low educated employees' preferences may be modified each time by a specificity of the main problem a solution of which is aimed at a specific project (for example, whether it relates to a healthy diet or a physical activity).

2. Preferred sources of information

The key problem for authors of projects on health education and health promotion is a selection of best ways through which knowledge and skills necessary for a rational health behaviour may be delivered to target groups. There is a whole range of possibilities of this kind. The table below shows which of the frequently used actions of this type suited (were accepted or even very accepted by) better and low educated employees.

Table 1. Preferred sources of knowledge and skills related to health among employees with different education levels from four countries surveyed.

Type of source	% of low educated	% of better educated	df=4
TV or radio broadcasts	72	70	
Health care specialist's advice	63	68	
Fetes	61	61	
Articles in newspapers and magazines	55	72	p<0,0001 x^2=60,1
Leaflets, posters	55	58	
Competitions, campaigns	53	45	p<0,0001 x^2=24,4
Workshops	50	56	p<0,01 x^2=13,5
Lectures	43	57	p<0,0001 x^2=27,7
Internet	41	66	p<0,0001 x^2=112,8
Professional self-help books	41	51	p<0,0001 x^2=33,0

In the popularity ranking of ways of acquiring knowledge and skills concerning health which was listed for low educated employees, first three places were occupied by: a) radio and TV, b) face-to-face meetings with specialists advising appropriate ways of taking care of health and c) fetes. Among better educated employees most popular were respectively: articles in newspapers and magazines, broadcasts on TV or radio and face-to-face advice.

Thus, the mass media: radio, television, press and face-to-face advice were among most anticipated sources of health knowledge in both groups surveyed. Moreover, these options were selected within both groups equally frequently: first one by nearly three-quarters and second one by two-thirds of all the respondents. As for the press, it is far more appropriate for more educated employees (72%) than for those low educated (55%). Fetes were accepted by 61% of employees, regardless of education level. However, although in the low educated group fetes occupied a good third position in the ranking, in the control group they were only in the fifth position. Leaflets and posters, competitions, campaigns and workshops on healthy behaviour were selected on average in both groups and at a similar level – by about every second employee[1].

Low educated respondents very rarely and less frequently than better educated employees chose the Internet (25% difference), professional self-help books (10% difference) and lectures (14% difference). Thus, these sources proved to be least suited to their preferred ways of providing information on health (suiting about 40% of them). All these contribute to the specificity of this group in comparison to the better educated one (the diversity concerning newspapers and magazines was already mentioned above).

Views on ways of providing information on health differed in a statistically significant way among low educated employees from each country.

[1] In the case of competitions, campaigns and workshops there was a weak statistically significant dependence on the level of education.

Table 2. Preferred sources of knowledge and skills related to health among low educated employees from different countries.

Type of source	Country				
	Spain (ES)	Latvia (LV)	Poland (PL)	Slovenia (SI)	df=12
Radio, TV	75%	65%	74%	76%	p<0,0001 x^2=56,7
Face-to-face advice	69%	70%	55%	58%	P<0,0001 x^2=87,9
Fetes	71%	72%	40%	59%	p<0,0001 x^2=124,5
Newspapers, magazines	67%	31%	51%	71%	p<0,0001 x^2=131,1
Leaflets, posters	64%	41%	56%	59%	p<0,0001 x^2=87,2
Competitions, campaigns	52%	75%	40%	43%	p<0,0001 x^2=152,8
Workshops	69%	51%	37%	48%	p<0,0001 x^2=140,9
Lectures	66%	34%	27%	53%	p<0,0001 x^2=114,0
Internet	53%	23%	37%	49%	p<0,0001 x^2=93,9
Professional self-help books	52%	18%	44%	50%	p<0,0001 x^2=114,4

As one can see, most open to various ways of providing information on health were Spaniards and most "capricious" Poles. Latvians, in turn, were most polarized: there were both widely accepted methods and those that suited only one out of five respondents. In Slovenia, in most cases, the specific source was selected by every second low educated employee.

In Spain, most of low educated employees (three-quarters of them) chose radio, TV or fetes. They most rarely chose professional self-help books, campaigns, competitions and the Internet (about half of them). Latvians commonly (three out of four) accepted campaigns, competitions, fetes and face-to-face advice. The least attractive to them were professional self-help books and the Internet (only about one out of four). For 75% of Polish low educated employees radio and TV were recognized as a most convenient source of information. These media were clearly favoured, as next options in the popularity ranking had 20% fewer indications (e.g. leaflets, posters, face-to-face advice). Among Poles least popular were lectures (only about one out of four), workshops and the Internet (about one out of three). Slovenian low educated employees willingly saw (three out of four) health information on radio and TV or in newspapers and magazines. Those were most preferred sources of information as the others were chosen only by about every second respondent (most rarely competitions and campaigns).

Thus, for example, although in Latvia one can expect a wide acceptance while organising competitions or campaigns aimed at solving health problems in society, such actions will not be appropriate in Slovenia. While for all low educated employees newspapers and magazines have a 50% chance to draw recipients' attention to the health information they contain, in Slovenia such a chance rises to over 70%, but in Latvia it drops to 31%. Lectures will satisfy two out of three Spanish low educated employees and only one out of four Polish employees of this kind (Polish low educated employees have the strongest aversion to lectures among all the nations surveyed). The situation would be similar as regards workshops during which one can learn groups of people how to behave in a healthy way (69% of Spaniards and only 37% of Poles were in favour of these activities) or fetes (respectively 71% and 40%). Professional self-help books will be read by half of Spanish and Slovenian employees and only by less than one out of five Latvians.

It is therefore difficult to get clear advice on preferred sources of health information for low educated employees in the European Union (EU), especially if for an indicator of the status quo are taken the results

of four countries participating in the project. One may only consider that the smallest probability of error relates to radio and TV. As for other sources, especially lectures, workshops, the Internet or even newspapers and magazines (which sometimes were approved by only one out of three low educated employees), an additional analysis should be made.

3. A relevant content of social health campaigns

As for the content which, according to the respondents, should be provided to citizens in their countries, low and better educated employees had quite similar opinions. Their views differed in a statistically significant way only on terms of encouraging physical activity and minimizing alcohol consumption[2]. Better educated employees more often pointed out that people should be encouraged to exercise more, while less educated employees underlined that people should be taught not to drink alcohol. The most commonly chosen issues in both groups are: smoking, healthy diet (about 40% of the respondents), alcohol consumption, coping with stress and taking part in check-ups (30%). The employees surveyed most rarely wanted to educate their fellow citizens about health care at work. Detailed results are presented in the Table 3.

Table 3. Preferences of employees with different education levels from four countries surveyed in terms of the content which should be provided to public by health education.

Type of content	% of low educated	% of better educated
Against smoking	45	42
About healthy diet	38	41
Against alcohol	36	27
How to cope with stress	30	35
About check-ups	30	35
About patient rights	28	25
About physical activity	26	37
About taking care of the environment	21	16
About following physicians' recommendations while sick	21	19
About health care at work	13	11
Other	3	1

In terms of the content which should be provided to citizens by health education and health promotion, low educated employees' opinions were different in the countries surveyed. Moreover, the differences related mainly to topics generally recognized as valid (as illustrates Table 4). Similarities occurred only in two areas: taking care of the environment and following physicians' recommendations while sick. In each country these two options were chosen by about every fourth or fifth respondent. Therefore, the similarities related to less popular issues.

It was observed that in three countries surveyed (Latvia, Poland, Slovenia) for the majority of low educated employees there was no dominant problem. They chose many important, in their opinion, issues. When it comes to Poland, most frequently (one out of two respondents) people chose issues concerning healthy diet and smoking. In Latvia most popular were two options: informing fellow-citizens about their patient rights and the need to reduce alcohol consumption. As for Slovenia, 40% of the respondents chose issues concerning stress and smoking.

Spain was the exception in this respect. The most important issue here was the need to educate people about smoking (63% of choices). Another important issue got 20% less indications and concerned healthy diet and consumption of alcohol.

[2] Respectively: $p<0{,}0001$, $df=1$, $x^2= 25{,}1$ and $p<0{,}001$, $df=1$, $x^2= 14{,}6$.

Table 4. Preferences of low educated employees from the countries surveyed in terms of the content which should be provided to public by health education.

Type of content	Country				
	Spain (ES)	Latvia (LV)	Poland (PL)	Slovenia (SI)	df=3
Against smoking	63	40	43	34	$p<0,0001$ $x^2=40,9$
About healthy diet	41	31	46	33	$p<0,001$ $x^2=13,7$
Against alcohol	40	45	36	23	$p<0,0001$ $x^2=23,2$
How to cope with stress	29	21	29	42	$p<0,0001$ $x^2=22,6$
About check-ups	20	30	31	38	$p<0,01$ $x^2=16,1$
About patient rights	12	48	31	21	$p<0,0001$ $x^2=74,8$
About physical activity	36	13	16	40	$p<0,0001$ $x^2=58,9$
About taking care of the environment	22	17	20	27	
About following physicians' recommendations while sick	21	23	22	19	
About health care at work	11	22	8	9	$p<0,0001$ $x^2=24,5$
Other	2	7	1	3	$p<0,001$ $x^2=28,8$

Smoking, physical activity and patient rights are the problems that strongly differentiated respondents from various countries. Fight against addiction to nicotine seemed important for two-thirds of low educated employees in Spain, while it was important for only one out of three Slovenian respondents. What is more, while 40% of Slovenian respondents wanted to popularize a physical activity, only 13% of employees in Latvia shared this opinion. Finally, almost half of the respondents in Latvia opted for being informed about patient rights, while it was important for only one out of eight of Spanish employees.

To sum up, however, the example of the countries surveyed suggests that problems of non-smoking and healthy diet seem to be important for a large part of low educated employees, regardless of the country of residence.

4. Attitudes towards trainings concerning health care

Activities in the field of health education and health promotion are often implemented under various types of trainings. Their importance may be hardly overestimated when one wants to transfer knowledge beyond the level of keywords and basic information or improve specific skills of a target group. However, organisers find it challenging to make people participate in such trainings. In the very study it was found out what is a general attitude to trainings, what increases and what decreases the willingness to take part in them and what are the preferences of low educated employees when it comes to choosing trainers.

When it comes to general attitudes towards trainings, it turned out (see Table 5) that most common, as shared by almost half of the respondents regardless of the education level (the correlation is statistically significant but weak), were two opinions: people do not have enough time for such trainings and these trainings are merely a pretext for selling something. What is more, many low educated employees (43% ,which is almost twice as many as in the better educated group) were of the opinion that it is better to know less about their health.

What is more, approximately one out of three employees with lower level of education had no confidence in the information given during trainings (among those better educated it was about one out of

four), argued that they know best how to take care of their health without such trainings or claimed that there is no need for such trainings as long as nothing wrong happens to health. That opinion was shared by only about one out of five respondents of the more educated group.

Fortunately, a participation in projects of this type was not generally associated with bad reactions of respondents' friends (in both educational groups, as the correlation is weak).

Table 5. Beliefs on trainings concerning health among employees with different levels of education from four countries surveyed.

Type of attitude	% of low educated	% of better educated	df=2
I do not have enough time for such trainings	57	49	p<0,001 x^2=17,3
During such trainings they usually want to sell something under the cover of talking about health	52	41	p<0,0001 x^2=22,4
Sometimes it is better to know less about my own health	43	25	p<0,0001 x^2=61,1
Such trainings only mess with ones head, trainers say one thing than a different one	36	23	p<0,0001 x^2=37,9
I know best how to take care of my health without such trainings	30	20	p<0,0001 x^2=25,4
As long as I am a healthy person, I am not interested in such trainings	34	22	p<0,0001 x^2=41,1
Taking part in such a training would humiliate me in front of my friends	11	5	p<0,0001 x^2=26,2

Thus, the carried out study revealed that there is a serious problem in the way low educated employees perceive trainings devoted to health issues. Similarly to the better educated respondents, they often do not want to spend time on trainings and suspect that they are some kind of camouflage for doing business. However, in comparison to their better educated colleagues, low educated employees more often prefer to know less about their health, complain that during such courses there is given contradictory information or do not see any sense of such trainings referring to good health or knowledge already acquired by them.

In the Table 6 it is shown the distribution of responses while taking into account the country where low educated employees live.

Table 6. Beliefs on trainings concerning health among low educated employees from different countries surveyed.

Type of attitude	Spain (ES)	Latvia (LV)	Poland (PL)	Slovenia (SI)	df=6
I do not have enough time for such trainings	41	58	79	49	p<0,0001 x^2=84,2
During such trainings they usually want to sell something under the cover of talking about health	45	61	58	44	p<0,0001 x^2=34,6
Sometimes it is better to know less about my own health	38	54	56	23	p<0,0001 x^2=68,2
Such trainings only mess with ones head, trainers say one thing than a different one	26	49	51	18	p<0,0001 x^2=82,8
I know best how to take care of my health without such trainings	29	24	42	24	p<0,0001 x^2=52,6
As long as I am a healthy person, I am not interested in such trainings	26	31	53	25	p<0,0001 x^2=59,1
Taking part in such a training would humiliate me in front of my friends	15	12	10	5	p<0,0001 x^2=31,5

As one can see, the negative beliefs on trainings concerning health issues were most widespread among low educated employees from Poland. The largest part of them (over three-quarters) claimed that they have no time for such trainings, which usually means lack of interest (in other countries only about half of the respondents were of the same opinion). Half of Polish employees had no confidence in the content of trainings (this belief was shared by only one out of six respondents from Slovenia or one out of four employees from Spain) or did not want to know more, as they feared that this would not do anything good (for example, such concerns had only one out of five respondents from Slovenia).

Second place in this specific ranking of 'malcontents' belonged to Latvians who even a bit more often than Polish low educated employees suspected that such trainings are only a pretext for selling some products. They also as often expressed lack of confidence in the content of such trainings and the need to develop knowledge which is later difficult to apply.

Generally, organisers of health trainings must be aware of a serious barrier, which reaches about 50% of the potential recipients, that exists on demand's side among low educated employees. This barrier is caused by the following beliefs:

- In Spain respondents believe that health trainings are only a pretext (a way of promotion) for selling some goods.
- A similar problem exists in Latvia, where employees want also to know less about health and do not want to waste their time on it.
- In Poland it is a lack of interest, the belief that someone wants to do business under the cover of health and the fear that knowledge of this kind can cause problems. Polish respondents show lack of confidence in the content of trainings as well.
- In Slovenia, it is a lack of interest in such trainings and the belief that participation in them is a waste of time (further information of this kind is presented in final chapters of the book).

To sum up, the data obtained from the survey suggest that general attitudes towards trainings are heterogeneous, especially when it comes to low educated employees from different countries. Therefore one should be aware of the necessity of analyzing the data if they want to implement this learning method on a large scale.

5. Factors increasing and decreasing the likelihood of participation in health trainings

Target groups in health education and health promotion consist mostly of people who do not want or are unable to develop their skills and knowledge about health care. It means, above all, that it is necessary to develop forms and content of health programmes or health campaigns best suited to their needs and possibilities. Then a very important issue becomes carrying out trainings that may effectively encourage potential recipients to take interest in them. One should also avoid all the situations that could discourage or deter them from the involvement in the actions proposed. Below there are presented respondents' opinions on factors which are often encountered in practice and may alter decisions on participation in health trainings. Table 7 presents activities that can stimulate interest in such courses.

It turned out that at least every second employee, regardless of education level, was interested in many actions of this type. The weakest incentive was the possibility of appearing in the mass media broadcasts devoted to the training. Only one out of five respondents was interested in it. Slightly less than half of the respondents indicated that in their case encouraging are snacks, leaflets and brochures they could receive.

Undoubtedly most important (for about three-quarters of the respondents) were financial issues. Employees did not want to pay for health trainings and even expected that organisers will pay them for taking part (such opinions were a bit more frequently held by low educated employees). The possibility of getting answers for your questions was a comparable incentive. Important advantages, according to the respondents, are also: possibility of taking part during the training in a treatment for health, beauty (i.e. massage) or checking health (i.e. glucose blood level or blood pressure), organisation of trainings during work time and in such a way that one can take advantage of professional advice while learning new skills important for health.

Table 7. Factors that encourage employees with different levels of education from four countries surveyed to participate in health trainings.

Type of incentive	% of low educated	% of better educated
Free of charge access	78	79
Possibility of getting answers for your questions	73	80
Being paid for taking part in the training	70	63
Treatment for health during the training	69	74
Checking health during the training	69	73
The training organised during work time	63	66
Practising something with expert's assistance	63	73
A small gift	61	53
A diploma, a certificate of attending the training	59	60
Possibility of exchanging opinions, sharing experience with other training participants	54	60
Taking part in a lottery with small gifts	53	43
Pamphlets/ leaflets for participants	46	43
Snacks served during the training	44	35
Possibility of appearing in the mass media broadcasts devoted to the training	26	19

Low educated employees from different countries had different preferences for factors that in practice encourage them to participate in trainings (see the table below). In some cases very clear differences could be noticed. For example, snacks during the training would be welcomed by twice as many Latvians, Poles and Spaniards as Slovenes. Slovenes and Poles, in turn, twice less than Spaniards valued diplomas and certificates of attending the training. Spaniards and Slovenes, in the same proportion, preferred more than Latvians classes during which one can discuss with other participants. Slovenes twice less than Latvians and Spaniards believed that participants should be paid for taking part in health trainings. Differences at the level of one fifth also appeared in the case of treatments, gifts, pamphlets and leaflets offered during trainings or the organisation of trainings during work time.

To sum up, the organisers of trainings concerning health issues must take into account different preferences of low educated employees. What in one country may act as an incentive to participate in them, in another may not work completely or even have results different from intended.

In the case of the countries surveyed the likelihood of reaching about three-quarters of low educated employees is increased by:

- in Spain: a) free of charge access and being paid for taking part in the training as well as a diploma/certificate of participation, b) such a way of conducting the training that there is an opportunity to get answers for your questions and benefit from health treatments or health checking activities c) a small gift.
- in Latvia: being paid for taking part in the training or free of charge access, possibility of benefiting from health treatments and getting answers for your questions.
- in Poland: free of charge access and being paid for taking part in the training, organisation of the training during work time with a range of health treatments and health checking activities.
- in Slovenia: such an organisation of the training that there is a possibility of getting answers for your questions, not paying for participation and an opportunity to benefit from health checking activities (see also information in final chapters of the book).

Table 9 illustrated factors that were recognized by target groups as discouraging from taking part in health trainings.

Table 8. Factors that encourage low educated employees from the countries surveyed to participate in health trainings.

Type of incentive	Country				
	Spain (ES)	Latvia (LV)	Poland (PL)	Slovenia (SI)	df=6
Free of charge access	89	74	73	76	p<0,0001 x^2=31,3
Possibility of getting answers for your questions	80	70	65	77	p<0,0001 x^2=51,0
Being paid for taking part in the training	84	80	73	41	p<0,0001 x^2=132,2
Treatment for health during the training	70	73	71	61	
Checking health during the training	76	59	70	72	p<0,0001 x^2=27,7
The training organised during work time	66	57	71	60	p<0,0001 x^2=44,1
Practicing something with expert's assistance	61	59	64	69	p<0,0001 x^2=48,0
A small gift	71	61	65	49	p<0,0001 x^2=52,9
A diploma, a certificate of attending the training	85	64	48	40	p<0,0001 x^2=133,6
Possibility of exchanging opinions, sharing experience with other training participants	69	37	48	61	p<0,0001 x^2=85,9
Taking part in a lottery with small gifts	55	55	58	50	p<0,0001 x^2=36,4
Pamphlets/ leaflets for participants	51	37	44	50	p<0,0001 x^2=32,2
Snacks served during the training	49	56	51	20	p<0,0001 x^2=95,3
Possibility of appearing in the mass media broadcasts devoted to the training	29	27	31	16	p<0,0001 x^2=29,0

Table 9. Factors discouraging employees with different education levels from four countries surveyed from taking part in health trainings.

Type of dejection	% of low educated	% of better educated	df=2
A necessity to pay	75	67	p<0,0001 x^2=16,1
Duration of the course over two hours	53	42	p<0,0001 x^2=20,0
A necessity to speak in front of a group of people	50	33	p<0,0001 x^2=55,5
A necessity to fill in a test checking the knowledge	46	28	p<0,0001 x^2=69,5
A concern that participants would be forbidden to do something or scared off of doing something	45	24	p<0,0001 x^2=33,3
A concern that what you can get to know could be hard to implement in everyday life	35	23	p<0,0001 x^2=33,7
A concern that what a trainer says would be hard to understand	32	17	p<0,0001 x^2=52,6
A fact that the training is organised by an employer who could get to know something about employee's health	31	24	p<0,0001 x^2=31,5
A concern that state of health would be checked	24	14	p<0,0001 x^2=30,1

In the light of the data collected it seems that it is a bit easier to encourage low educated employees than discourage them from participating in health trainings. It is good news for organisers of health education and health promotion programmes.

However, the representatives of the target group differed much more from the control group than it was in the case of encouraging factors. Common discouraging factors for both low educated and better educated employees are long duration of trainings and (once again) financial issues: the biggest part of both groups would not participate in the training for which they had to pay[3]. The biggest differences were noticed in relation to: necessity to fill in a test checking the knowledge, necessity to speak in front of a group of people and concern that what a trainer says would be hard to understand. If health training included such elements, much more low educated employees than better educated ones would not take part in it. In this respect, therefore, they appeared to be a more demanding group.

Information on the situation in this regard in different countries participating in the project LEECH shown in the Table 10.

Table 10. Factors discouraging low educated employees from four countries surveyed from taking part in health trainings.

Type of dejection	Country				
	Spain (ES)	Latvia (LV)	Poland (PL)	Slovenia (SI)	df=
A necessity to pay	65	74	90	71	p<0,0001 x^2=44,5
Duration of the course over two hours	46	51	72	41	p<0,0001 x^2=59,5
A necessity to speak in front of a group of people	51	47	52	49	
A necessity to fill in a test checking the knowledge	45	39	58	42	p<0,0001 x^2=36,5
A concern that participants would be forbidden to do something or scared off of doing something	52	20	51	16	P<0,0001 x^2=108,3
A concern that what you can get to know could be hard to implement in everyday life	44	31	45	20	p<0,0001 x^2=41,7
A concern that what a trainer says would be hard to understand	51	25	38	13	p<0,0001 x^2=90,5
A fact that the training is organised by an employer who could get to know something about employee's health	30	41	39	12	p<0,0001 x^2=143,5
A concern that state of health would be checked	30	26	31	8	p<0,0001 x^2=54,8

Country the low educated employees came from strongly differentiated the importance of the analyzed factors. Only a necessity to speak in front of a group of people was identified as an inconvenience with a similar frequency (by about every second respondent).

In the light of the obtained data it is more likely to inanely discourage Polish and Spanish employees from health trainings (at least every third of them considered as negative every analyzed factor) than employees from Slovenia and Latvia.

Particularly big differences in attitudes occurred in the case of: a) suspicion that an employer could get to know something about employee's health (about 40% of Latvians and Poles would not participate in such a training, while this factor is alarming for only one out of ten Slovenes), b) concern that information given during trainings may arouse anxiety and restlessness (in such a situation about half of Polish and Spanish employees and only one out of six Slovenes would surrender the training), c) assumption that the content of trainings will be hard to understand (which exclude the participation of every second Spaniard and only one out of eight Slovenes).

[3] There is a weak statistically significant dependence between variables.

People planning such events should take into account that every second low educated employee will refuse to participate in the training if they do not try to avoid:

- In Spain: fees for participation, content hard to understand which contains prohibitions and arouses anxiety, necessity to speak in front of a group of people.
- In Latvia: fees for participation and long duration of trainings.
- In Poland: fees for participation, courses lasting more than two hours, filling in a test checking the knowledge, frightening and persuading participants to speak in front of a group of people.
- In Slovenia: fees for participation and necessity to speak in front of a group of people (see also information in final chapters of the book).

Thus, as for the factors and situations reducing the interest in health trainings, organisers of health education and health promotion should expect, judging by the example of countries participating in the project, different reactions among low educated employees resulting from their nationality and culture. Despite these differences, however, regardless of the country, the most risky is charging for trainings and long duration of courses. Moreover, for every second low educated employee a necessity to speak in front of a group of people will be discouraging as well.

6. Preferred trainers

Recipients' acceptance and confidence in health trainers is important for the efficiency of health influence. Among employees with different levels of education preferences in this regard were as follows:

Table 11. Preferred health trainers among employees with different levels of education from four countries surveyed.

Type of trainer	% of low educated	% of better educated
A physician, a nurse, a midwife	42	42
Other health specialist	41	48
Someone who successfully coped with a problem	32	35
A well known, acknowledge expert	29	28
Some kind of a healer (i.e. bioenergetics therapist, herbalist)	16	13
A celebrity (i.e. an actor, a politician, a singer)	14	10
Clerical	2	1
Someone else	5	3
Nobody	7	3

As one can see there were no significant differences between the analyzed groups. Low educated employees did not have different expectations than those better educated when it comes to preferred trainers giving information on how to be healthy, fit, etc. Almost half of the respondents saw in this role physicians or nurses and other health professionals, such as psychologists or nutritionists. Therefore, the respondents would like to derive knowledge from professionals, but what is interesting, not necessarily from experts with a known name. They trust more ordinary people who themselves coped with a problem and can share such an experience. Clericals were not seen in such a role at all and popular, well known people or representatives of alternative medicine very rarely. Perhaps they are associated more with appearances on television or radio than conducting a training.

The distribution of responses also shows that finding the right person to conduct health trainings is not a simple matter. Typical trainers satisfy at best less than every second employee. At the same time there has not appeared any other trainer who would satisfy needs of the majority.

Country of residence also complicates the problem of selecting best health trainers for low educated employees.

Table 12. Preferences of low educated employees concerning health trainers in each country.

Type of trainer	Country				
	Spain	Latvia	Poland	Slovenia	df=3
A physician, a nurse, a midwife	42	35	49	44	
Other health specialist	51	27	48	40	p<0,0001 x^2=28,6
Someone who successfully coped with a problem	31	31	23	43	p<0,001 x^2=18,7
A well known, acknowledge expert	17	37	28	33	p<0,0001 x^2=22,5
Some kind of a healer (i.e. bioenergetics therapist, herbalist)	17	17	9	19	
A celebrity (i.e. an actor, a politician, a singer)	10	27	12	6	p<0,0001 x^2=42,9
Clerical	2	6	1	0	p<0,001 x^2=16,7
Someone else	6	11	0	1	p<0,0001 x^2=37,7
Nobody	6	11	10	2	p<0,001 x^2=18,1

Once again there were different preferences when it comes to most of the distinguished types of health trainers, except: a) physicians, nurses, midwives and b) representatives of alternative medicine. These were selected respectively by 40% and 20% of the respondents in each country. As for: a) celebrities – they interested every fourth employee from Latvia and one out of seventeen Slovenes, b) other health specialists – they were chosen by every fourth Latvian and every second Spaniard, c) experts with a known name – they may fulfil expectations of every third Slovene and only every sixth Spaniard, d) people who want to share their own health experiences – they were good candidates for trainers for 43% of Slovenes and only 23% of Poles.

All in all, best health trainers, because preferred by about every third low educated employee, are:

- in Spain: medical professionals and other health specialists.
- in Latvia: experts with a known name, physicians, nurses and people basing on their own experiences.
- in Poland: medical professionals and other health specialists.
- in Slovenia: physicians, nurses and other specialists, practitioners and well known experts.

Thus, the widest choice of potential health trainers (who are quite commonly accepted) is in Slovenia where one can address not only physicians, nurses and other health professionals who are most popular in other countries too, but also well known experts and practitioners. In this regard the worst situation is in Poland and Spain where one should limit to medical professionals.

Basing on the example of the countries participating in the project one can assume that, regardless of nationality and culture, low educated employees will consider medical professionals good health trainers. Relatively few of them will be satisfied if such a role is given to different types of healers who do not have the authority of academic medicine.

7. Expected health interventions of companies

Companies are very convenient areas for realisation of health projects aimed at working population. Their advantage is that they often have staff who may organise, or at least support, programmes of this kind, appropriate technical and social facilities and, above all, highly facilitated contact with the

target group. If companies are able to plan and implement events that are adequate to needs of the staff, it is a good investment in both employees' health and development or building of company's positive image (Korzeniowska, 1998; Ylikoski et al., 2006; Hamalainen, 2007).

In the very study it was examined whether and what expectations would have employees if they were hired by a company taking care of its employees' health. Their responses are given in Table 13.

Table 13. Health interventions of companies expected by employees with different levels of education from four countries surveyed.

Types of intervention	**% of low educated**	**% of better educated**	**df=1**
Medical check-ups and treatment by various specialists financed by an employer	53	54	
Taking care of the health and safety at the worksite much more than it is required by law	41	38	
Vaccinations i.e. against flu or hepatitis	37	25	p<0,0001 x^2=26,4
Co-financing employees' recreation/ leisure	27	24	
Taking care of the aesthetic and comfort in the workplace	23	22	
Creating less stressful working conditions	22	28	
Organisation of sports activities	19	24	
Trainings, workshops on how to cope with stress	15	17	
Access to healthy food in a company canteen/ cafeteria	15	21	p<0,001 x^2=11,1
Making sure that the non- smokers are not exposed to tobacco smoke	12	12	
Lectures and leaflets concerning ways of taking care of health	10	8	
Support in quitting smoking	8	9	
Trainings on less alcohol consumption	8	4	p<0,001 x^2=11,8
No intervention			

As for health programmes organised by companies, low educated and better educated employees had very similar expectations[4]. Only vaccinations met with much bigger interest of low educated employees. Most frequently, because chosen by about every second employee, the respondents wanted the company to finance their medical check-ups and treatment by various specialists. Only slightly smaller percentage of employees wanted the company to take care of the health and safety at the worksite much more than it is required by law. What is more, one out of five respondents had a similar request when it comes to the aesthetic and comfort in the workplace and about one out of three/ four expected vaccinations. Every fourth respondent hoped employer to co-finance their recreation. However, only one out of ten employees indicated that the company could organise lectures and give leaflets concerning ways of taking care of health. Even fewer employees wanted employers to organise classes on less alcohol consumption or quitting smoking. Thus, the respondents mainly expected companies to finance medical check-ups and treatment by various specialists or take care of better working conditions. They rarely expected that companies could try to promote healthy changes in employees' lifestyles.

In the Table 14 are listed needs of this kind in terms of the country of residence.

Low educated employees of each country, as shown in the table above, differed as for what they expected from the employers who would like to take care of employees' health. They differed the most when it comes to: issues of aesthetics and comfort in the workplace (wanted by 44% of Spaniards and only 7% of Poles), financing medical check-ups and treatment (chosen by 69% of Latvians and 40% of Spaniards), trainings on how to cope with stress (preferred by 26% of Spaniards and 5% of Latvians) and

[4] There is a weak statistically significant dependence.

taking care of the health and safety at the worksite much more than it is required by law (hoped by 49% of Slovenes and 25% of Latvians). They agreed when it comes to relatively less expected activities, such as: organisation of sports activities, making sure that the non- smokers are not exposed to tobacco smoke and co-financing employees' recreation.

Table 14. Health interventions of companies expected by low educated employees from four countries surveyed.

Types of intervention	Country				
	Spain (ES)	Latvia (LV)	Poland (PL)	Slovenia (SI)	df=3
Taking care of the aesthetic and comfort in the workplace	44	29	7	12	p<0,0001 x^2=95,8
Vaccinations i.e. against flu or hepatitis	44	49	30	25	p<0,0001 x^2=34,8
Taking care of the health and safety at the worksite much more than it is required by law	44	25	48	49	p<0,0001 x^2=31,5
Medical check-ups and treatment by various specialists financed by an employer	40	69	59	44	p<0,0001 x^2=47,6
Lectures and leaflets concerning ways of taking care of health	5	11	13	10	
Trainings, workshops on how to cope with stress	26	5	15	16	p<0,0001 x^2=33,6
Trainings on less alcohol consumption	11	12	5	3	p<0,01 x^2=16,2
Organisation of sports activities	17	18	14	26	
Making sure that the non- smokers are not exposed to tobacco smoke	10	16	15	7	
Support in quitting smoking	14	6	5	6	p<0,01 x^2=15,7
Access to healthy food in a company canteen/ cafeteria	16	15	6	23	p<0,0001 x^2=22,3
Creating less stressful working conditions	17	18	21	31	p<0,01 x^2=14,3
Co-financing employees' recreation/ leisure	31	24	32	22	
No intervention	1	5	3	6	

Most expected health interventions (at least at the level of 40% of low educated employees) of companies were:

- in Spain: issues of aesthetics, comfort and safety in the workplace, vaccinations.
- in Latvia: financing by the employer medical check-ups, vaccinations and treatment by various specialists.
- in Poland and Slovenia: financing medical check-ups and treatment and taking care of comfort and safety in the workplace (further information may be found in final chapters of the book).

Therefore, while planning health projects in the workplace, judging by the example of the countries participating in the "LEECH" project, the smallest risk of error when it comes to low educated employees is associated with financing medical check-ups and treatment. The demand for other interventions is worth recognizing in each specific case.

8. Summary

In the light of the data obtained low educated employees appear to be difficult recipients of health education and health promotion. At the same time preferences of this target group are clearly dependent

on the socio-cultural conditions related to the place of residence. As for the comparison to the better educated employees, the low educated differ when it comes to: a) acceptable sources of health information, b) general beliefs about trainings dealing with this subject and c) fact that different situations and factors may negatively affect their decisions whether to participate in such events.

As for the sources through which they wish to be informed about health issues, they are clients who, on the one hand, want to receive in a passive way information broadcast on radio or TV, or to participate in events combining fun with health education. On the other hand, they also expect that someone will advise them on how to care more about health in their specific situation. This way of thinking may be a simple consequence of the respondents' experience because, as one knows, health education is carried out mostly through the mass media or in a direct way (Gniazdowski, 2000; Woynarowska, 2008). However, it can not be excluded that it is to some extent a conscious choice, as to both gain knowledge on what to do for health in a simple (i.e. that does not require going out) or even pleasant way (during the game), and have the possibility of face-to-face consultations with a specialist who, after identifying a problem or need, will advise on how to behave.

As regards the mass media, this source of information has defined, well known limitations (Minelli, Breckon, 2009), but in the case of low educated employees there appear additional problems as well. As the number of such persons decreases, they become a less significant group of customers. Thus it will be more difficult (and probably more expensive) to use this source of influence in programmes and strategies, especially as one has to take into account the specificity of health awareness (which was described earlier) and lower perceptual abilities of low educated employees.

A significant level of acceptance of activities which trough fun enable people to do something for their health (an indicator of which were fetes) may be a good sign of the effectiveness of programmes aimed at low educated employees. Proven effectiveness of the entertainment as a way to change attitudes and behaviours may be therefore well used in projects of health education and health promotion while talking about this kind of target group (Pratkanis, Aronson, 2004).

A big challenge (logistical and financial) for organisers of health projects may be a widespread interest of low educated employees in face-to-face advice. However, it seems it is worth facing it. Very often big health education campaigns focus on preventing the diseases of civilization, including awareness of how not to harm your health. These actions, in turn, often arouse anxiety and fear which interferes with taking the recommended actions, especially by people who do not have a good opinion of themselves and adequate knowledge of how to do it. In such a situation detailed instructions, tailored to personal circumstances, are regarded as best solution to this problem (e.g. experiments of Howard Leventhal on quitting smoking). Thanks to them, such persons may face their fears and take rational steps (Ibidem).

Our results also encourage to be cautious while using the Internet and professional self-help books as well as lectures or workshops in health actions aimed at low educated employees. There is a risk that thanks to them one may get to only about every second recipient of this kind. The attitude towards these sources clearly and unfavourably differs such a customer from a better educated one. It is similar when it comes to newspapers and magazines. Low educated employee, in turn, will respond slightly better than a better educated one to an offer to participate in health competitions and campaigns.

Reluctance to lectures and workshops can be explained by associations with school and lessons that may not be satisfactory, judging by early interrupted learning. When it comes to the Internet it is known that it is mainly used by young learners and better educated people[5] (Batorski, 2009; Finnegan, Viswanath, 2002; Owen N. et al., 2002). Thus the obtained data only confirmed that such a trend still exists, also in the area of health. The same goes for newspapers and magazines: low educated people less frequently read press and health is not a problem that would change it.

As for the choice of effective sources in educational activities aimed at such a target group in the specific country, basing on the example of Spain, Latvia, Poland and Slovenia, it is worth remembering that it may differ from the model outlined above. Even the high utility of radio and TV as sources of health information should not be taken for granted, as it may happen that it will not be a good way of reaching the largest number of low educated employees (such a situation was observed in Latvia). Similarly, one

[5] For example, in Poland 94% of pupils and students and 83% of people with higher education use the Internet in comparison to 7 % of people with primary education (Social Diagnosis, 2009).

can not decidedly exclude the usefulness of lectures in influencing this type of recipients, as they may be still very popular in such a group (as was the case of Spain).

As for the countries participating in the project LEECH, the organisers of health education or health promotion programmes from Spain may choose from a wide range of sources with a high probability of reaching a substantial proportion of recipients. Evidently these possibilities are limited for Poles. Choices of organisers from Latvia should be particularly measured, as Latvians may make use of both very effective, but also quite unsuccessful methods. Slovenes, in turn, should use various sources, since their low educated employees have clearly different attitudes to each of them.

As regards beliefs about health trainings, the survey proved that they constitute a serious barrier to the dissemination of this type of impact on employees, especially the low educated ones. They more often agreed with each of the analyzed, negative opinion about health trainings. They differed from the better educated employees most when it comes to the conviction that it is better to know less about health and that there is no need for such trainings as long as nothing bad happens to health. The first opinion means a considerable prevalence of feelings of helplessness (Schwarzer, 1997; Sęk, 2000). It suggests the need for such a health content that would not strengthen the belief that it is difficult to cope with challenges or threats. One should rather postulate to be more focused on clear, detailed and optimistic advice building self-efficacy (Pratkanis, Aronson, 2004). A major problem is also an opinion that it is worth taking care of health (including finding out how to do it) only in case of illness. Its significant popularity (at the level of every third low educated employee) means the subjective negation of health activities' sense.

Moreover, low educated employees believed more that they know best how to take care of their health and had less confidence in the information given during trainings. Since the Lance Canon's experiment it is known that when we are sure of our opinion we do not want to listen to other opinions and arguments. Thus, the argument "I know best" is a big challenge to the education campaigns aimed at people who think like this (Ibidem). Reservations about the quality of the content mean, however, that it is difficult to overestimate role of clear and unambiguous content of such trainings. One must also take into account that in the case of such recipients it is more likely that they do not want to spend their time on trainings and are afraid that trainings are only an excuse to sell some goods. Such opinions are, unfortunately, quite a strong message: "It's not for me" or even "I won't get fooled". It may mean not only lack of interest in trainings, but also some objection to them.

The findings also suggest the possibility of significant differences in attitudes of low educated employees from different countries towards health trainings. Educators and health promoters may both face an abundance of many negative beliefs about health trainings (as in Poland), and have a chance that they will meet frequently only few of such opinions or even some of them occasionally (as in Slovenia).

Once again, therefore, it is worth underlining that such a state of beliefs about health trainings is a very serious problem and challenge. In many situations one may not achieve objectives of the strategy and health programmes by simply abandoning them. There is a need to intensify efforts to change those opinions.

Low educated employees also turned out to be a group that is easier to deter while preparing an offer of trainings on how to take care of health. One should definitely avoid charging for participation in health trainings and limit their duration (in this case, however, the same recommendation applies to the better educated). In particular, it is worth paying attention to not to carry out tests or other forms of testing knowledge and avoid situations in which participants would have to speak in front of the group.

Low educated employees may be treated in the same way as the better educated ones when it comes to: a) content on which, according to them, should focus social health education campaigns, b) means that can be used to increase participation in health trainings, c) choice of trainers conducting such trainings and c) health actions undertaken by companies.

As for the content that should be included in health education and health promotion, both groups highlighted as particularly important issues concerning smoking and healthy diet. They most rarely opted for teaching fellow citizens about health care at work.

The only specific feature of low educated population was attaching a greater importance to non-alcohol activities and smaller to popularization of physical activity than it was noticed among graduates of secondary schools and universities. It can be presumed that one of the reasons may be the fact that they more often perform work that requires physical activity, so they do not suffer as strongly from effects of

lack of activity. As for the problem of alcohol abuse, they may encounter it more often in the environment they live in.

Living in a particular country influenced the subjects that seemed important to low educated employees when it comes to their society. They differed most with regard to smoking, physical activity and patient rights. They attached a similar importance to the need of teaching about taking care of the environment and adherence to physician's instructions while sick. However, these were the issues that were rarely selected as significant.

The collected data also showed that there are possible different scenarios when it comes to the amount of health topics recognised as socially important. For example, one can expect both a situation in which low educated employees are interested in many issues (as happened in Latvia, Poland, Slovenia) and the one in which there is a dominant issue or even a specific problem (as in Spain).

When it comes to factors encouraging participation in health trainings, in the context of general negative attitudes towards this form of interaction, particularly good information is fact that even three-quarters of employees are ready to change their mind if certain conditions are met. Free access to such trainings and the possibility of medical check-ups or treatment by various specialists are especially important. It is interesting that 70% of employees would be encouraged to participate in a training if they were paid for attendance. Encouraging for the two-thirds of them may be organisation of trainings during work time, giving a small gift and the possibility of getting answers to questions. Moreover, each time it is worth identifying factors directly influencing decisions about participation in such trainings, as they may vary depending on employees' country of residence. One should be most cautious when offering diplomas or certificates of attendance, charging for participation and giving snacks.

Choosing medical professionals as health trainers guarantees the biggest probability (although only at the level of 0.5) of appointing right people to conduct such trainings. It turned out that a physician, a nurse and a midwife or other specialists such as a psychologist, a nutritionist or a physiotherapist are still most frequently associated with health trainings by employees, regardless of education level. Taking into account cultural factors, the choice of a physician or a nurse is least risky. It is obvious that one should not commission such a task to clericals, representatives of alternative medicine or well known people such as actors, singers or politicians. Regardless of nationality, one may also expect a low interest in representatives of alternative medicine as the candidates for health trainers.

A company taking care of staff's health is associated by employees, including the low educated ones, mostly with financing medical check-ups and treatment or ensuring the comfort and safety at work. They do not expect the employer to engage in activities related to implementation of healthy changes in employees' lifestyles. This kind of attitude may simply stem from experiences of employees who mostly in these areas observe health activities of companies. It can be interpreted as an inability to go beyond schemes. Then, it is worth including in health programmes of companies activities which will awake new employees' needs connected to taking care of health at work.

However, there is probably other, or further, explanation of employees' expectations towards company that wants to take care of staffs' health, which is even more challenging for specialists in health education and health promotion at work. Perhaps these expectations are a consequence of the mechanism of choosing such solutions which help to achieve results without making an effort (Winn, 2003). Thus, employees prefer the company to take from them some responsibility for their own health by offering medical services and healthy workplace rather than encourage to lead healthier lives. Such an interpretation seems very probable if one takes into account the fact that more respondents expected a management staff to care for limiting factors that generate stress at work rather than organise trainings on how to cope with stress. In favour of this speaks also data on health habits which was presented earlier in this book.

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8. Shaping the low educated employees' healthy lifestyles – recommendations

Elżbieta Korzeniowska, Krzysztof Puchalski

The studies carried out under this project have been supported by additional and previously collected findings and they have evidenced that the group of low educated employees in many situations constitute a specific and difficult recipient of health education and promotion projects. Although in many ways this group is consistent and distinguishable from the group of better educated employees, at the same time it is also very varied when its members from different countries are compared.

When planning activities in the field of health education and promotion addressed to low educated employees, apart from the features characteristic for the whole group, it is also worth considering specific social and cultural factors relevant for a given state. Some of the data demonstrating differences characterising the states participating in the project have already been presented (on the basis of the studies carried out) in this publication, however it is worth making these analyses more detailed by considering additional findings identified in each state. It would be useful if representatives of the states that have not taken part in the project could focus on the following suggestions concerning the group of low educated employees as such, and also, refer to their own studies, analyses and experience. It would be also valuable if they could adjust the following suggestions to their own social and cultural specificity – not only to the contents, ways of thinking and behaviours of employees from their states – but also to the tradition of health protection and promotion, organisational structures, professional roles, legislation, and so on.

This chapter presents the main findings and relevant conclusions for practical actions referred to the whole group of low educated employees from four states taking part in the project. The issues of possible differentiation of these recommendations for the individual states have been ignored.

The fact that the group of low educated employees is in an inconsistent and ambivalent situation with regards to the relation between objective features of their condition and their subjective reception constitutes the main challenge. On one hand there are strong objective reasons that justify the need to intensify education and promotion-based activities, as this group is characterised by a poorer health condition, less often implements actions favourable for health and holds less knowledge and other competences in the field of health care. On the other hand, awareness of low educated employees contains a subjective barrier, which is difficult to overcome and limits possibilities of reaching them with health education communication. This barrier is not exclusively related with competences conditioned by their generally low education level, but it also refers to specificity of their thinking about health issues, developed in every-day situations of social life, also outside of the formal education context. Subjective belief that although health-related knowledge held is not great, it is sufficient to meet everyday needs of majority of these people, is very common in this group. At the same time they do not wish to learn more how to look after their health.

This situation leads to a conclusion that low educated employees are the group that requires more intensive and well prepared actions in the field of health education and promotion. Yet this group demonstrates resistance to developing their knowledge of health care. It may be due to bad connotations related

with the situations of knowledge acquisition in the past periods, lack of confidence in possibilities of applying theoretical knowledge in every-day life, limited practice in applying this knowledge, and activation of psychological mechanisms blocking awareness of shortages in the knowledge held and needs to develop it. Intensification of impacts is to weaken this resistance to developing knowledge and building openness to health-related communication. Yet, paradoxically, in this context it is worth limiting these actions that the target group associates with knowledge transfer. Instead, it is necessary to develop all these educational methods and strategies shaping positive attitudes towards healthy lifestyle that will rather apply changes in behaviours than intellect-based measures. Thus instead of basing transfer of theoretical contents through training, lectures, leaflets, etc., it is better to arrange such situations and events (e.g. leisure activities, providing access to various health promoting services) during which employees will become interested in health, acquire knowledge and various skills "unknowingly", unaware of the fact that they are learning, and without identifying such situations within the categories of learning.

Intensification of the actions addressed to low educated employees may lead to the situation where they will feel that someone is manipulating or even stigmatising them. That is why it is important that in the context of their resistance to knowledge acquisition, health education and promotion activities should also be addressed to employees representing the other groups of education. However it should be observed if better educated employees as a result of their greater activity, do not block access to the offer developed for lower educated employees – to these elements that will be introduced due to the specificity of the target group in particular – and do not impose their own needs and preferences in the course of its delivery.

The next challenge, which is especially important in the context of educational intervention's efficiency, results from the fact that health care issues are hardly ever noticed by low educated employees. They seldom think about their health or pay attention how their behaviours impact health, however if they consider these issues, they subsequently neglect such reflections.

These findings support the assumptions that people are not so rational as health education experts used to think. Even such an important value as health does not make us reflect upon this subject on daily basis. That is why we may not expect that people will use their health-related knowledge on daily basis nor that they will draw relevant conclusions to impact their behaviours. Nevertheless some of health-related behaviours are reflexive, i.e. they are undertaken as a result of rational motifs and considerations, and that is why we may not underestimate the role of health awareness (knowledge, beliefs, interpretation, opinions, etc.) in generating these behaviours. That is why, first of all, there is a need to stimulate these seldom occurring considerations concerning health and behaviours favourable for health. In this context, we may recommend diverse activities resulting from adoption of marketing strategies – activating such stimuli (diverse, attractive and variable) that will attract attention to matters concerning health, remind of health, facilitate at least a short reflection and remain remembered. Secondly, since low educated employees seldom think about their health, it is also worth creating other, non-intellectual incentives, and facilitate start and follow-up of actions favourable for health (such as social patterns and standards, organisational and infrastructural solutions).

The above mentioned specificity of low educated employees is clearly observed in the working environment. They more often neglect their health at workplace. They not only less often attempt to work in the way that will be least harmful to their health, but in general, they also less often perceive a need to work in a safer manner. Spreading the belief that it is worth observing only these health and safety at work regulations that involve penalties for incompliance, is symptomatic.

These findings indicate that the method of penalties for incompliance with health and safety at work regulations (and consistent executing them in the cases of incompliance) should be maintained, however this kind of negative stimulation should also be complemented with positive incentives, which will involve awarding employees working in the way that is safe to their health. These types of mechanisms that stimulate desirable behaviours seem to be of special importance, however we should continue to make employees aware of the relation between the job they do and their health, both in the context of negative and positive impacts. We would also like to clearly communicate that function of health and safety at work regulations is not only disciplining staff, but they are mainly to reduce risk to health. This information should not primarily refer to work in general and health, but to specific situation of specific individuals, i.e. to the recipients of the educational communication (to their position and conditions of work, and also to the condition of their health, health potential and risk). It is also necessary to demonstrate

that health care at workplace may not be limited only to the issues covered by the health and safety at work regulations. Many issues related with the health problems which currently are of a key importance, remain either unregulated or regulated very imprecisely, and employees themselves may significantly influence these conditions of their health that are unregulated. They include problems of self-destructive behaviours, diet, ergonomics, stress (mental health in general), which are underestimated by employees.

The next problem to be resolved by health education and promotion of the target group is related with the fact that its representatives become interested in health issues mainly when they experience ailments or disease, otherwise they hardly ever see any sense in living healthy lifestyle when they are healthy. In a way, it undermines the general assumptions of modern health education and promotion which is focused on strengthening health capacity and not only in disease prevention.

Low educated employees more often hold a belief that it is better to know less about their health, thus consistently, they less often attempt to undergo regular preventive examinations, and more often expect various problems if they were to use such examinations. On the other hand, they are interested in simple tests (delivered during training or other health promotion activities), which are likely to confirm their good health condition rather than to identify major health problems and a need to treat them.

In this context, we could suggest that the interventions combining transfer of health-related knowledge with examinations of health conditions of the target group, which would be easily accessible, should be delivered. However we do not mean the interventions whose aim would be to detect a disease early (as low educated employees are afraid of such knowledge), but the ones that would identify selected parameters of functioning of their bodies (such as parameters indicating pressure, cholesterol level, vital lungs capacity, BMI, glucose level), and on the basis of these parameters, it would be possible to recommend employees specific changes to lifestyle and release their personal motivation to implement them. More specifically, we may postulate such forms of actions, where the first stage would include performance of simple tests, while the second stage, the main one, on the basis of the results of these tests, would involve establishing subjective justifications and motivation to look after their health. This type of activity also includes an advantage that it does not concern health perceived in an abstractive sense, but to specific health condition of an individual employee, recipient of the education and promotion-based actions.

The survey carried out under the project has indicated that the group of low educated employees, unlike the group of better educated ones, is characterised by a feeling of helplessness, which involves the lack of confidence in their ability to cope with health problems. They also fear that they will be unable to implement recommendations to look after their health. Moreover, if they undertake some actions of these types, they are less persistent in their delivery.

In the context of the above findings, we may recommend at least three key directions of education and promotion-based interventions.

The first one involves strengthening psychological resources of low educated employees: assist them to develop a better self-esteem, internal feeling of efficiency, self-control over course of actions, etc. This type of dispositions may be developed not only in the context of health (its promotion and education), but also for the purpose of broader objectives and any other fields which are not related with health (such as vocational enhancement training courses).

The second direction will help to strengthen outputs of the activities implemented under the first direction, and it will involve developing specific skills, such as providing employees with simple algorithms of behaviours favourable for health. We mean such algorithms whose application will facilitate quick, noticeable effects caused by implementation of a new behaviour (or by changing a negative behaviour into a health-friendly one), to ensure that the beneficiary notices that he/she has reached success and copes well with health care.

The third direction of interventions involves creating mechanisms which will facilitate occurrence of desirable behaviours (such as the behaviours delivered on the basis of the above algorithms) in the environment, in the working environment in particular. These mechanisms include both various formal regulations facilitating health-friendly behaviours (such as bonus payments for non-smoking tobacco products during working hours), building and strengthening community support (e.g. developing groups which will jointly deliver health-friendly actions that will be of interest to employees, create fashion for healthy behaviours, engage company's management to participate in such actions), infrastructure (e.g. improving conditions to rest, availability of premises for consumption and personal hygiene), etc.

The survey has indicated that the above mentioned helplessness (or rather a feeling of helplessness) is reinforced by a belief commonly shared by low educated employees that their status compels them to live modest lives. They less often declare that they live comfortable or even average lives. Another survey has indicated that they associate healthy lifestyle with the need of securing large amounts of funding for this purpose. They also often justify the lack of health-friendly activity with the lack of funds. That is why we may recommend two types of comments in the education and promotion-based interventions. Under the first one, we recommend that the offer addressed to low educated employees should be truly adequate to their material status (e.g. sport and leisure activity that will not require application of expensive equipment or use of expensive facilities). The second type involves direct communication informing that healthy lifestyle does not have to cost much. This communication should also be supported by specific examples of actions and choices that employees of low social status often make in their everyday life.

As it has already been mentioned, low educated employees seem to remain under significant impact of negative experience related with their previous education, school education in particular. That is why they have bad connotations with these forms of actions that correspond with that experience. They are afraid of knowledge checking tests, speaking in public, having to understand subjects that are considered to be complex. In this context, it is worth accepting the fears declared and avoid applying negatively perceived methods of impact in the educational activity. Moreover, it is worth emphasising that methods of this type shall not be used. Completely different interventions based on "learning by doing", joint problem solving, group presentations, and so on, should be applied instead.

Fears that difficulties in understanding educational communication will arise have their objective justification. The group surveyed more often does not understand general meanings of many commonly used health and healthy lifestyle-related terms. Its members also more often have problems with simple calculations (such as the ones concerning dosage of medication), and are unable to identify impact caused by many factors on health. In this context it seems rational that general recommendations concerning education (not only health-related education) for adults with low education level should promote simple communication, dividing material into smaller parts, simple explanations, etc. Preparation of health educators is also of a huge importance. It is important that they should get rid of a common assumption according to which it is believed that everyone understands the meaning of health-related words (even of those that are commonly considered to be obvious), frequently repeated in media, etc. According to another assumption which is usually shared by professionals and which needs changing, majority of "ordinary people" are convinced about occurrence of a generally perceived causal relationship between their own behaviour and health, and these people understand specific impacts of a given action on condition of their health.

In their immediate environment, low educated employees less often notice colleagues presenting health-friendly behaviours – they either really function in the environment free of such behaviours or health-friendly actions and lifestyle simply do not attract their attention. They also less often notice that people from their immediate environment are interested in others who act favourably for their health – in particular they do not notice that others praise and admire such behaviours.

Observations of this type indicate the above need of developing community support for healthy-friendly behaviours, strengthening the already existing ones, and establishing new social patterns of health-friendly actions. The idea is to disseminate any interesting initiatives, both the ones that are planned and already delivered by employees (individually and in groups) in the field of health care, in order to make them visible to all the employees and stimulate their interest. It is also important that health-friendly actions should be universally perceived as "something normal", performed by many people in their immediate environment. It is also worth ensuring that success (even minor) achieved in these actions is utilised and that people and groups who have achieved it (or at least got involved in the health-focused initiatives) have been awarded. In general, it will be favourable to create psychosocial climate (as an element of organisational culture at work for example) in which taking care of health (also in the form of joint activity) will be worthwhile and trendy, and it will not cause embarrassment. A belief that neglecting health is not laudable and the fact that it provides a good way to demonstrate one's independence, strength and courage, should also be an element of this climate.

Another issue worth mentioning is the fact that low educated employees represent a specific attitude to some initiatives undertaken in the field of health education and promotion. First of all it is worth analysing the issue of training, which is one of the most commonly applied forms to create health-friendly behaviours.

Low educated employees demonstrate ambivalent relation to training. On one hand they demonstrate negative attitude. In general, they discredit this form of impact and perceive their participation in this activity as a waste of time. They suspect that the training is often held for a completely different and "disguised" purpose. They associate their participation in the training with a range of fears, demonstrate lack of confidence in this form of communication and contents communicated. They rank health-focused training as one of the least preferred forms of health-based communication. On the other hand, low educated employees usually demonstrate openness to various incentives that would convince them to take part in such training. They also reveal their preferences concerning the forms and characteristics of such impacts.

Although in many cases low educated people rejected training, we have also observed that members of this group expressed, sometimes indirectly, their aspirations to upgrade their social status, enhance their education, even insignificantly, and get closer to long life learners. That is why there are favourable conditions to offer this form of education to low educated employees – despite their general reluctance – provided that the training is developed in an appropriate manner. It means that this group will have to be gradually accustomed to participate in these forms of learning in order to overcome this reluctance. In accordance with preferences of low educated employees, the following elements should be avoided in the training if it is to be approved by them: fee for participation, long duration, need to speak in public, checking knowledge acquired, intimidation and introducing bans. On the other hand, it would be useful to include various forms of awarding: prize lotteries, gifts, snacks, or even small money prizes.

Low educated employees are relatively less often open not only to traditional training, but also to any other forms of knowledge transfer – they less often tend to participate in the training that requires additional involvement on their part in particular, such as independent search for information in Internet, reading guides or articles in newspapers or magazines. However they are more often ready to take part in competitions, that is in the events which are less engaging. It indicates that it is rather not worth expecting that this group will be ready to develop their knowledge independently, on the basis of the above mentioned media, and that its members know the contents disseminated through these forms of communication.

The group surveyed is not specific (i.e. it is not distinguishable from the group of the better employed), however it is far more often willing to use radio and television as sources of health-related information – or at least these media seem to them to be obvious to perform this function, even if they were not consciously preferred. Equally often, this group expects direct contact with professionals, such as physicians, nurses and other health experts. They want to have a possibility of individual consultations and asking questions concerning their health during more general meetings. As other studies have indicated, expectations of this type of contacts may be more connected with the need of consulting health problems experienced so far, rather than talking about general healthy lifestyle topics.

In this context it is worth raising a doubt whether the power of radio and television-based communication as a medium in the health education of low educated employees may be trustworthy. It is obvious that they will be unable to benefit fully from such messages as they will be constructed for mass recipients and not for this specific group. That is why direct contacts of low educated employees with professionals specialising in health issues will be definitely more efficient and effective form of impact. However their professional health-related knowledge will not be sufficient. These health experts will also have to hold professionals skills in the field of understanding and impacting low educated employees, which will be more important for the purpose of this direct form of education. Other studies have indicated that medical staff usually feel that they have not been adequately prepared for such tasks. Individual forms of education may also turn to be a significant logistic challenge to organisers of such interventions. However despite of these difficulties, it seems that the direct education delivered by health professionals (ideally, by those who hold broader competences) may be worth considering.

Low and high educated employees are also no different with regards of these health-friendly actions that are expected of them by their employers. All employees usually expect medical examinations and treatment paid by their employers, and also care of comfort and safety at work at the level higher than required by the regulations. Low educated employees more often than the other group expect preventive vaccinations only. The following two findings are worth emphasising.

Firstly, it is the fact that employees mainly expect that someone else will look after them and their health, and due to this, their company will provide them with something that will be good for their health. This expectation is stronger that their readiness to do something good for their health, make their own contribution to improve it. In the context of health, they perceive their employer mainly as a body that will sponsor medical services and comfortable and high standard physical working conditions instead of a body that expects and requires adequate behaviours of them. That is why it is worth ensuring that under the planned educational and promotional interventions, during their first stage in particular, their beneficiaries should receive realistic bonuses rather than having them to bear significant cost (such as the cost of changing habits, investing their time, need to verify beliefs held so far, etc.).

Secondly, it is worth benefitting from this common expectation of medical services and care for working conditions. If it is planned that such actions will be offered to employees, we would recommend that they should not only be used as an investment, gift or a form or payment, but also as stimuli to introduce healthy changes in their lifestyle. Medical services (such as examinations, vaccinations and consultations) may be combined with the above mentioned (and also suggested for delivery) direct education conducted in doctor's surgery, which will reveal relations between patient's diagnosed health condition and his/her behaviours, which will convince him/her to change behaviours to improve health condition. Similarly, expected modernisations of working posts and social infrastructure may be complemented with educational activities such as the ones related with safe work (when upgrading working equipment), healthy diet (when modernising canteens), relaxation and stress management (when renovating places for employees to rest).

The above observations lead to a generally important conclusion that apart from delivering various independent health-focused interventions (including educational ones), it is also necessary to develop and implement complex programmes of health promotion. They combine education with establishing such environmental conditions that will stimulate and facilitate delivery of health-friendly behaviours. They consolidate actions focused on accident and disease prevention with impacts focused on positively perceived health of employees.

Summary of this chapter will synthetically re-emphasise the key recommendations concerning educational and promotional activities focused on stimulation of health-friendly behaviours of low educated employees, based on the results of the studies carried out under the project, other findings and experience gathered in the field of direct delivery of health-friendly activities. The following solutions are worth recommending:

1. Revaluation of the views held by professionals specialising in health education and promotion, which will involve recognition that people do not always have to be guided by rational thinking (and they are fully entitled to do so), and that they may be guided by their own rationality, which may be perceived as different and "illogical" by an external observer accepting medical views. Improved acceptation of the obvious (thus not neglected) fact that health does not have to be the most important value to some people and that in their actions they are often led by emotions, and are subjected to strong impacts of communities in which they function. Educational and promotional activities should realistically take into account the regularity which indicates that various social groups are different with respect to their health, behaviours, objective possibilities to act, ways of thinking, skills in understanding health terms and messages, which in the case of low educated employees means the need of adjusting the activities (at the stage of their planning, implementation and evaluation) to identified specificity of the target group – this approach should complement conventional simplification of the information to be transferred.

2. In the case of better educated employees single actions or educational campaign may be effective, while in the case of the low educated ones it is more often required that the forms of intervention should be organised in a comprehensive way. Interventions in the field of health education and promotion should on one hand involve provision of health-related information, build related positive emotions, shape psychological skills and capacity to facilitate healthy lifestyle and establish such conditions that would

facilitate delivery of health-friendly activities on the other. These interventions should be implemented as long-term and coordinated processes in order to facilitate health-focused changes in behaviours (and in the environment). They should also be preserved and maintained in the longer time horizon.

3. It is important that health-focused projects should not be exclusively implemented in connection with health itself, but also in the contexts that are not directly associated with health (such as in the context of looking after one's good appearance, recreation and fitness, preparing to get a better job), and which may get employees engaged. We could also recommend that other projects implemented in the environment of the group of low educated employees, in the workplace in particular, (such as programmes of changes in the work organisation, renovations of infrastructure, professional development courses), should be profiled to address the health issues to a greater extent, and shape conditions favourable for health and competences to be used also in the health-friendly activities.

4. As members of this group often share the feeling of being inefficient, it is worth to implement complex and integrated activities focused on: (a) development of their psychological capacity, and upgrading their self-esteem (during health-focused interventions or other, the above mentioned activities unrelated with health), (b) teaching them simple behaviour change algorithms which will guarantee fast success, (c) establishing facilities and social and organisational support for delivery of health-friendly behaviours.

5. It is worth following the rule which states that before we start expecting that low educated employees start implementing changes in their health-related behaviours (and indirectly require that they make some investments, such as giving up "pleasant things", habits, contributing their time), first we should offer something that they may perceive as an award and meet their expectations.

6. In the interventions that mainly involve transfer of knowledge addressed to low educated employees, it is recommended that the number and frequency of impacts (stimuli) stimulating their health-related interest and reflection should be increased. This should involve a systematic, however unaggressive, raising of awareness of health issues and healthy lifestyle. The marketing strategies and methods presented above could turn specially useful.

7. Health-related knowledge should be disseminated with an aid of such methods that are hardly associated with school education and formal education system. It means that educators should avoid application of such forms of developing health-related competences and behaviours as lectures, talks, longer texts (guides) to read. Where it is necessary to apply courses and training, it is worth to place special emphasis on respecting general principles of teaching adults. Fees to participate in the events, their long duration, necessity to speak in front of others, testing knowledge, intimidation and introducing bans are also to be avoided. Instead it is worth to offer various types of awards, such as lotteries, gifts, snacks, and even to consider small money prizes.

8. When addressing various messages to low educated employees, one should not assume that they understand all the terms that are commonly used in health education or that their understanding is correct. Thus we should not avoid explaining these terms, especially that they often admit that they do not understand them.

9. Moving from the communication at the level of general health issues and average citizens to the communication addressed individually, to a concrete person, is a valuable method of influencing low educated employees. This may be achieved by offering them a possibility of benefitting from simple medical tests. These tests are to stimulate their interest in their health and build motivation to change behaviours. They help to formulate recommendations concerning healthy lifestyle applicable and specific to a concrete individual, which are based on specific parameters of his/her health. This recommendation is related with the need of cooperating with medical experts (holding the competence of generating social impacts) in the fields of such individualised educational and promotional interventions. It is also related with organisation of individual consultations with health experts (such as psychologists, nutritionists and trainers).

10. Phenomena of exclusion and stigmatisation of low educated employees need to be counteracted, in habitat projects (implemented at workplace) in particular. This may involve (a) "hiding" the fact that the health-focused offer, which in fact is developed for the needs of low educated employees is specifically addressed to them, (b) complementing the offer with activities addressed to the groups representing all levels of education, however it must be also (c) ensured that low educated employees are preferred beneficiaries of this offer.

9. The low educated employees towards health — a Spanish example

Jose Gil, Dolores García, Manuel López

1. Introduction to the Spanish health status

According to European Observatory on Health Systems and Policies, Spanish health status is as follows:

- The average life expectancy in Spain is one of the best in the world and was 84.3 years for females and 77.8 for males.
- Traffic and occupational accidents are significant public health problems in Spain.
- AIDS and HIV are among the important health issues in Spain.
- Drug addiction in Spain (mainly cocaine) is a significant public health and social problem.
- According to the World Health Organization, there were 27% of daily smokers in Spain in 2007 (European Health for All database, January 2009).
- Alcohol consumption and alcohol-related causes of death in Spain have been decreasing since the 1980s.
- The proportion of the population with overweight and obesity problems in Spain is increasing (INE 2008).
- Significant inequalities in health in Spain have been reported (SESPAS, 2000; Ministry of Health and Consumer Affairs, 2003). Despite the higher average life expectancy for females, their self-perceived health status is worse.
- According to the Ministry of Health, **inequalities in self-perceived health status between social classes** still exist.

2. The foundations of vulnerability – health education and financial status of LEEs

The National Action Plan on Social Inclusion of the Kingdom of Spain (2008-2010) considers the following factors associated with vulnerability:

- **Employment.** considered as the main source of income and subsistence.
- **Economic poverty.** The percentage of adults at risk of relative poverty differs based on the circumstances of their economic activity.
- **Gender and age dimension.** The population rate at risk of poverty is higher among women (21.2%) than among men (18.5%).
- **Composition of households.** Person or group of persons who occupy the same dwelling.
- **Family solidarity support.** Family is important for explaining individual social and work situations.
- **Access to new technologies** is nowadays essential for economic and social development.
- **Level of education and health**

Education is a basic activity that influences the lives of men and women and has an impact on access to the labour market, promotion, future income and participation in economic and social life. Set out below are figures and tables that help us to understand the situation in Spain.

Table 1. Population below the poverty risk threshold per level of education (%). Source: Living conditions Survey. National Institute of Statistics.

Level of education	2004	2005	2006
Primary Education or lower	32.2	28.3	29.9
Secondary Education – first stage	21.1	20.2	20.7
Secondary Education – second stage	15.6	13.3	12.4
Further Education	7.9	7.4	7.2

With reference to the ages of people in further education, net rates tend to decrease as age increase. The percentage of people between 25 and 64 years of age in education and training in Spain was 10.4% (9.3% men and 11.5% women).

With regard to all this information, the Grundtvig Leech project analysed of a sample of 458 workers in Spain, and contributed new data about the economic situation, health and educational level of workers in Spain:

- A total of 55.7% of the lower educated employees (LEEs) surveyed said that they live modestly, while this was said by 34.6% of the more highly educated group.
- As the level of educational rises, the number of chronic diseases and accidents requiring regular contact with the medical services falls. 36% of people with a low educational level say they have had an accident or illness, while this figure falls to 24.3% in the case of more highly educated people.
- The same thing happens, although not to the same degree, when subjects are asked about accidents or diseases they have suffered in the last year. Lower educated employees suffered 9.4% of accidents or illnesses while more highly educated workers only suffered 4.2%.
- There were no statistically significant differences in terms of gender in any of the three variables analysed.

Conclusions and recommendations

Causes of vulnerability in Spain include the employment situation, poverty, gender, age, family structure and support, access to new technologies, educational level and health.

The sample of 458 workers confirmed the following:

- Educational level is directly related to the economic situation.
- Lower educated employees are more likely to suffer from illnesses and to have accidents.
- There is a clear link between educational level and the risk of falling into poverty.
- No clear statistical differences have been seen between the genders.

3. Knowledge and literacy concerning ways of taking care of health – subjective and objective aspects

3.1. Self-assessment concerning ways of taking care of health

Lower educated employees saw their health in very similar terms to those with a higher educational level. A total of 63.4% of more highly educated people said they were healthy, in comparison to 60% of lower educated employees.

In the meantime, 71.4% of LEEs and 78% more highly educated people said they would like to learn more about health. Only 17.4% of LEEs believed they knew enough about health. In this variable there were significant gender differences. Whereas 80.2% of women said they would like to know more about how to improve their health, only 68.5% of men showed the same level of interest.

3.2. Health literacy in LEEs

The LEEs were extremely interested in improving their knowledge. 30% are taking part in some kind of training, in comparison to 24% with a higher educational level.

31% of people with a low level of education believe that they know more than is reflected in their academic qualifications.

With regard to habits and basic knowledge of reading, computers and speaking a second language, the results were positive, although there were large differences between the groups. There is a difference in the percentage of workers who know a second language (95% of highly educated workers and 36.8% for the LEEs) and reading habits (79% of the highly educated workers and 47.2% of the LEEs). They all have good or very good knowledge of computers or the Internet.

To focus more closely on health, all those surveyed said that they are well versed in this topic.

Health does not appear to be a subject that anybody minds talking about or debating. Most of the subjects interviewed think about health or listen to information about what is good for their health. On the negative side, it should be noted that 31% of the LEEs do not think about or pay attention to their health on a daily basis.

With regard to the level of knowledge on health held by the two educational groups, important statistical differences were found in all aspects investigated. More highly educated workers achieved high scores in all the questions asked, always more than 70% correct answers, while only 22.89% of the LEEs managed to get some of the questions right, such as the meaning of the concept "free radical".

The aspects in which the LEEs got a greater percentage of questions right were:

- 78.6% know what "passive smoking" means.
- 73.2% know what "Illness prevention" means.
- 70% know that moderate exercise is good for the health.
- On the other hand, LEEs had serious difficulties understanding the meaning of the following terms:
- Free radicals. Only 22.89% know they are bad for the health. In this case only 35% of the highly educated group managed to get it right.
- The meaning of cholesterol (58.3%) or the food pyramid (53.73%)

Conclusions and recommendations

The first aspect we would mention is participation of the LEEs in training activities. We understand that it is the response of unqualified workers who are concerned about the bad economic situation in Spain and the efforts made by companies to train their workers, especially those with a lower educational level.

Workers generally have a good opinion of health. There were no differences based on gender or educational level.

Health is a topic people worry about and about which people want to have greater knowledge. It is important to change the mentality of the 31% of the LEEs surveyed who pay no attention to their health.

Within the sample surveyed, the LEEs expressed adequate interest in training processes (71.4% want to know more about their health), correct interest in reading and good knowledge of the Internet and computers that may be very useful for delivering future training activities focusing on health.

Great differences in the knowledge of the meaning of key aspects of health were seen, depending on the level of education of the people surveyed.

4. Lower educated employees' health behaviours

With regard to the health behaviour of workers, the Ministry of Health and Consumers drafts annual reports that provide essential information broken down and classified therein. In this introduction we cover: body mass index and diet; physical exercise, tobacco smoking and alcohol consumption.

Body mass index and diet. This affects more **non-skilled workers** (16.9%) than skilled workers (10%). Regarding numbers of people on a diet, the results can be seen in the Table 2.

Table 2. Percentage of workers on a diet. Source: National Statistics Institute, 2009.

Qualification	Yes	No	No answer
Non-skilled workers	9.6	89.3	1.1
Skilled workers	12.5	86.2	1.3

Physical exercise: 51.9% of non-skilled workers do physical exercise in their free time. Among the skilled workers this percentage reaches 66%. The reasons why they do not exercise are shown in the Table 3.

Table 3. Reasons for not exercising. Source: National Statistics Institute, 2009.

Qualification	Health problems	Other preferences	Lack of time	Lack of willpower	Other reasons
Non-skilled workers	19.6	10.9	36.0	22	8.7
Skilled workers	10.8	9.2	48.2	25	5.6

Smoking: 50% of the population of Spain say that they have never smoked, 20.5% claim to be ex-smokers and 26.4% of the population aged 16 and over say they smoke every day. By sex, 31.6% of men and 21.5% of women smoke. The Table 4 shows smoking habits for more educated employees and their less qualified colleagues.

Table 4. Tobacco smoking frequency. Source: National Statistics Institute, 2009.

Qualification	Daily	Occasional	Ex-smoker	Never smoked
Non-skilled workers	36.0	3.5	27.2	32.0
Skilled workers	27.2	3.1	23.1	46.4

Alcohol consumption: As regards alcohol consumption, 26% of the Spanish population aged 16 and over claim that they never drink, 5.8% say they are ex-drinkers, while 19.8% drink occasionally and 48.4% consume alcoholic beverages regularly. A total of 7% of men and 3% of women consume alcohol in quantities considered dangerous.

On the other hand, the sample surveyed in the Grundtvig Leech project saw that 59% of LEEs are trying to cut their fat consumption; 59% do exercise or sport every day, 75% drink small quantities of alcohol or no alcohol. A great difference was seen with regard to physical exercise, with 75% of the more highly educated group saying they were trying to cut down fat consumption as opposed to 59% in the less educated group of people.

Conclusions and recommendations

There are essential topics that we should take into account when talking about behaviour that affects LLEs, such as smoking, obesity, alcohol, drug use and physical exercise.

It has been seen that these types of unhealthy behaviour are more frequent in the least qualified workers, especially obesity and alcohol consumption.

5. Specificity of LEEs' beliefs concerning health behaviours

A total of 31.9% of LEEs surveyed showed little persistence when starting to do activities aimed at improving health. Of the range of options shown, the groups showed the following preferences (see Table 5).

There was a significant statistical difference according to educational level with regard to fat consumption, where only 59% of LEEs said they had tried to cut down.

Table 5. Percentage of people doing healthy activities.

Higher educated group	%	Lower educated group	%
1. Work in a way that is less damaging to health	80	1. Work in a way that is less damaging to health	79
2. Drink small amounts of alcohol	73	2. Drink small amounts of alcohol	75
3. Reduce fat consumption	75	3. Do exercise/keep fit	59
4. Reduce sugar consumption	61	4. Reduce fat consumption	59
5. Do exercise/keep fit	58	5. Reduce sugar consumption	53
6. Have medical checkups	47	6. Have medical checkups	48

Both groups said they had done these activities quite easily. Particularly the following:

- Trying to work in a less harmful manner for their health (82%).
- Have medical checkups (78%).
- Reduce alcohol consumption (76%).

On the other hand, reducing fat consumption is considered the most difficult thing to do.

Lastly, the number of lower educated employees who felt understood by their relatives is 12 points higher than more educated people.

Conclusions and recommendations

The actions the LEES say they find it easiest to do are: "work in a way less damaging to health" at 82%, "have medical checkups" with 78%, "drink small amounts of alcohol" with 76% and "do exercise" with 73.4%.

However, it must be remembered that 31.9% of LEEs surveyed showed little persistence when taking up activities aimed at improving health.

It is important to take advantage of the understanding between the LEES and their families. All the questions about understanding family members were above 50%.

6. LEEs' behaviours and beliefs in the field of occupational health

In terms of the link between working conditions and health, no statistical differences were seen between the two groups of workers. In spite of Spain being one of the European countries with the highest accident rates, only 21.3% of LEEs surveyed think their working conditions are damaging their health. In the case of the more educated group, this figure rises to 19.8%.

With regard to worries about occupational health, there were few differences between both groups. Half of all LLEs asked said they were unaware or almost unaware of their occupational health.

When asked about the tendency to prevent illnesses, aches and pains or workplace accidents, both groups were very interested in knowing how to prevent illnesses, aches and pains or accidents. 71% percent of LEEs said they were very or moderately worried about this topic.

On the negative side, we found that 16% of LEEs said that the only reason for complying with the Law was to avoid being fined. A difference was seen with the more highly educated group, where only 6% shared this opinion.

There were no differences between the groups with regard to health measures that should be introduced by companies. It is hoped that the companies will take the following action:

1. Possibility of medical Check-ups ant treatment by various specialists financed by an employer.
2. Caring for the aesthetic and comfort of the workplace.
3. Taking care of the health and safety at the worksite beyond the requirements of the law.

Conclusions and recommendations

Lower educated employees are not concerned enough about the importance of occupational health, and half of them unaware or almost unaware of their occupational health. This, and the belief held by some that the only reason for complying with health regulations is to avoid fines, may be two of the factors that

make Spain one of the countries most seriously affected by occupational accidents, most of which happen to people with a low level of education.

7. Attitudes towards health education and its preferred forms

Opinion on various health education tools

With regard to the preferences shown by those surveyed in terms of suitable training in matters of health, they all showed a heavy preference for: a) taking part in in-person meetings with the supervision of a specialist, b) listening to the radio and watching TV, c) taking part in meetings where a group of participants, under the supervision of a specialist, practices healthy behaviours. On the other hand, the option "read books about health" was the least popular.

The topics that should be included in training activities are as follows: smoking, nutrition, sport and exercise, alcohol (more so among the LEEs) and dealing with stress.

Preferences concerning health educators

There were no differences between the groups according to educational level. 52% of LEEs interviewed liked listening to "Other health specialists: psychologist, nutritionist or physiotherapists. In the meantime, 41% liked listening to "doctor, nurses and midwives". On the other hand, very few are interested in alternative medicine and almost nobody wants to listen to a priest.

Factors increasing motivation to take advantage of health education offer

In general, no differences were seen between the groups with regard to factors that incentivise participation in training activities. The only exception is "receiving a gift for taking part", which was chosen by 71% of the LEEs and only 48% of the group with the higher educational level.

For the LEEs surveyed, the main factors motivating participation in a training activity would be: "it should be free of charge" (89%), "receive a grant for taking part" (84%), "obtaining a diploma" (80%) and "getting answers to my questions" (80%). On the other hand, little importance was given to aperitifs or appearing in the press.

Factors decreasing interest in health education

In this case there were great differences according to the educational level in relation to the factors that decrease interest in taking part in a training activity.

Of the LEEs, 51.3% consider that the obligation to speak in public is a negative factor when it comes to taking part in a training activity. For the more educated group, this was discouraging in 36% of cases. The same applies to difficulties understanding the trainer. 50% of LEEs interviewed said that this had discouraged them, while only 30.2% of the other group agreed.

Both groups confirmed that paying for training is a deciding factor when it comes to taking part in training activities (64% of those surveyed).

Conclusions and recommendations

No significant differences were seen in the level of education with respect to attitudes and preferences when it comes to health training activities.

The "in-person" meetings provided free of charge and featuring professions, attended by large numbers of pupils and dealing with topics such as smoking, nutrition, sport, exercise and alcohol, with a diploma awarded at the end of the training are considered the most suitable for workers with a low level of education.

8. Summary

The different Spanish studies consulted make clear reference to the relationship between education, health and people's (and workers') economic situations. Also age, gender, home structure, family support and access to new technologies are deciding factors that must be taken into account throughout the social, occupational and training integration of people (or workers).

According to these studies, the main problems that should be tackled are: AIDS, drugs (mainly cocaine), alcohol consumption, traffic accidents, obesity and smoking. The fact is that most people affected by these problems have a lower level of education.

The sample surveyed in the Grundtvig "Leech" project on 458 workers corroborates the data published in the earlier reports. 24% of more educated workers suffer from chronic diseases or have had accidents which require regular contact with the medical services, while this number increases to 36% among the LEEs. On the other hand, a lower level of understanding of these matters has been detected among lower educated employees.

With regard to health education among people with a lower educational level, we should take advantage of several positive aspects detected, such as the fact that 71.4% of workers are concerned and want to learn more about health. Correct understanding and support from family members has been detected (more than 50%) and work colleagues. They say that the find the following actions easy: working in a manner less damaging to health, having medical checkups and reducing alcohol consumption. Together with this, doing exercise and sport are most popular among people with a lower educational level.

On the negative side, activities to raise awareness should be considered for the 31% who do not pay attention to health, taking into account lack of consistency maintaining the activities in 31.9%, the difficulty following a fat free diet and the 50% who do not think about their health when they are working.

Lastly, training activities on health topics for workers with a lower level of education should possess the following characteristics:

- They should be oriented towards in-person meetings of a practical nature, where an expert (psychologist, dietician, physiotherapist, doctor, nurse...), offers solutions to students' problems in an easily understandable manner.
- The main subjects on the curriculum should be: smoking, nutrition, sport and exercise, alcohol and dealing with stress.
- Using the Internet and television as a vehicle for transmitting knowledge.
- Free of charge, grants and a diploma awarded at the end of the activity.
- With no obligation to speak in public.

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10. The low educated employees towards health — a Latvian example

Ivars Vanadziņš, Maija Eglīte, Inese Mārtiņsone,
Dagmāra Sprūdža, Mārīte Baķe, Mairita Zellāne, Šarlote Konova

1. Introduction

Latvian society has undergone serious changes during last 20 years in terms of economics, education and culture unfortunately emerging with severe problems as regards education and health. Quick growth interrupted by economic crisis in 2008-2009 has not resulted in sufficient resources dedicated towards health and education with smallest part of GDP in EU being spent on health and education system being under constant never ending reform process. This has resulted in some very unpleasing statistical data, e.g. Latvia is among the leaders of death from ischaemic heart disease with 1214 deaths per 100 000 inhabitants (among women 65-84, data: Eurostat, 2006) and one of the highest suicide rates in EU (Eurostat, 2006.). These data are not suprising if for example attitude towards healthy life styles are best characterised by survey saying that 49% of Latvian inhabitants never do any sport activities (Sport habits of Latvian inhabitants, SKDS, Riga, 2007).

Such situation cleary requires actions to be taken towards health education of society including those who are at work. In situations with limited resources it is of utmost importance that the money is spent using best available resources and knowledge and addressing those mostly at risk namely those with less education. Therefor this study are aiming to find answers on how to best tackle low educated employees to influence their health choices.

2. General information

In total 426 interviews were performed in Latvia over various regions and various industrial branches. 212 interviews falls into category of low educated employees (LEE) and 214 into control group of persons with at least secondary education degree or well educated employees (WEE).

Interviews have mostly been done in:

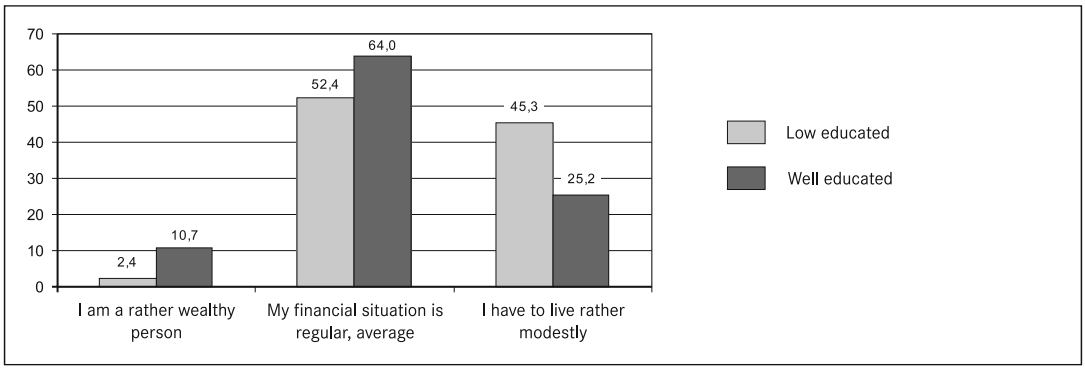
1) Centre of Occupational medicine where patients come with complaints about occupational diseases (mostly low educated workers) and in in-patient department of Occupational medicine clinic at Clinical university hospital in Riga (approximately 20% of interviews);

2) Companies (typically sized 20 employees and more) based on their voluntary agreement to take part in an interview.

Different age groups and sex have been covered. Among 212 LEE workers there were 42.9% women and 57.1% men while there were 54.7% women and 45.3% men in WEE. That to our opinion fall into general consideration on education trends in Latvia that there are significantly more women with high education level than men. Distribution in age groups are approximately even between 3 age groups of 25-34, 35-44 and 45-54 years old employees.

Employees with different financial situation were interviewed with majority of respondents describing their financial situation as average (52.4% for LEE and 64% for WEE) (see Table 1).

Table 1. How would you describe your financial situation?



3. General health status of interviewed employees

In general most of the interviewed group assessed their health as good (45.3% of LEE and 48.6% of WEE) or mentioned that they often suffer from some health problems that are not serious (42.0% of LEE and 45.3% of WEE) with no significant difference among the groups (see Table 2). This data corresponds with that from survey done in 2008 as part of European sturvey of health of Latvian inhabitants (Survey of health of Latvian inhabitants, Central Bureay of Statistics, Riga, 2008) where 49.2% stated their health status as good. However the study of health habits of Latvian inhabitants done in 2008 showed that little bit more than 20% of respondents stated their health status as good (Health Behaviour among Latvian Adult Population – 2008, Centre of Health Economics, Riga, 2008). This could probably be explained that this study was done using letter interviews with response rate about 50%.

Majority of employees in both groups didn't mentioned that they have suffered from an accident or disease leading to serious limitations in everyday activities (72.2% of LEE and 80.4% of WEE) but almost one fifth (17.5 and 17.3%) mentioned that they have had such situation (see Table 3). Similar situation were observed with regards to chronic diseases requiring regular contact with health services – 18.4% of LEE un 23.8% of WEE responded positively to such question (see Table 4). In general it is therefore safe to assume that up to 40% of all interviewed have had closer contact with medical services and presumably should have more information on their health status. This data is little different from the data from Survey of health of Latvian inhabitants (Central Bureay of Statistics, Riga, 2008) where 40.4% of respondents stated that they have serious and chronical health disorder.

Table 2. How do you assess your own health?

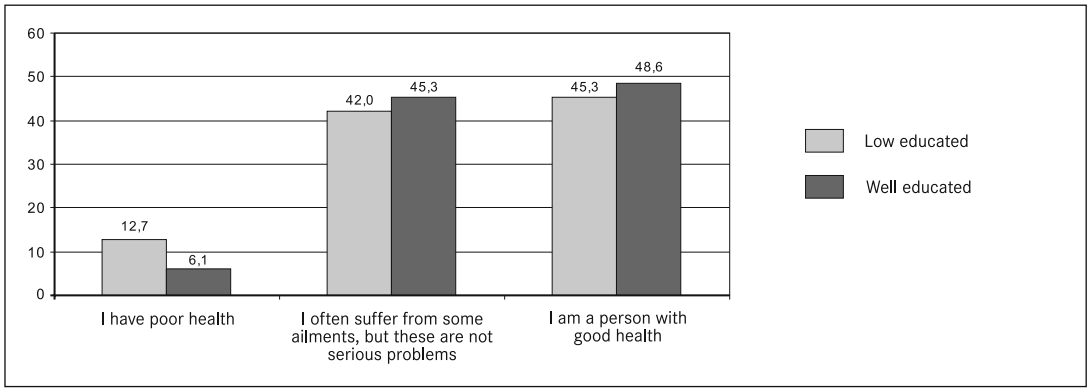


Table 3. Have you suffered an accident or a disease that results in a serious limitation?

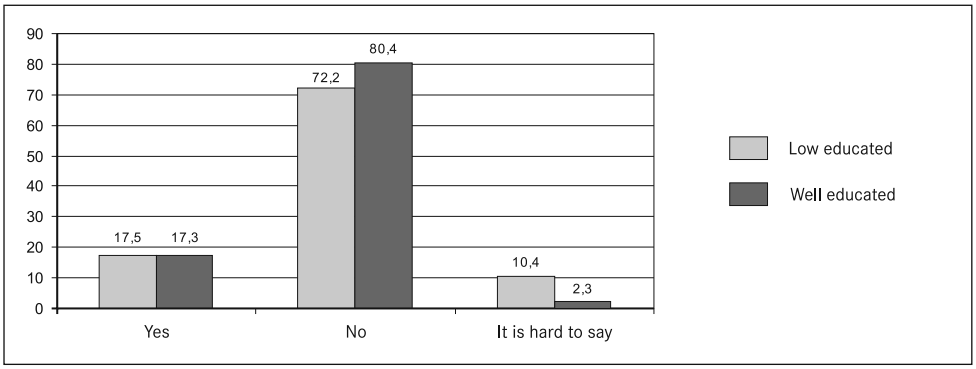
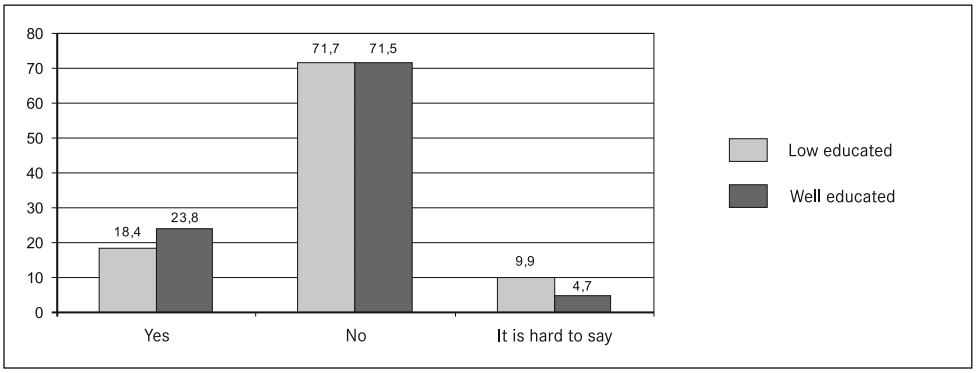


Table 4. Do you have any chronic diseases that require to stay in touch with the health care services on regular basis, perform regular check – ups or tests, a certain regime in your lifestyle or taking drugs?



4. General knowledge on health and attitude towards health issues

More than half of the employees among well educated workers noted that their knowledge regarding health are very good or good (54.7%) while only 33.5% of low educated employees noted these answers (see Table 5). When asked if they wish to know more about their health little less than 20% responded that what they know is sufficient (19.8% of LEE and 17.8% of WEE) but majority stated that they would like to know more (55.2% of LEE and 61.2% of WEE) (see Table 6).

Table 5. How do you assess your own knowledge regarding health?

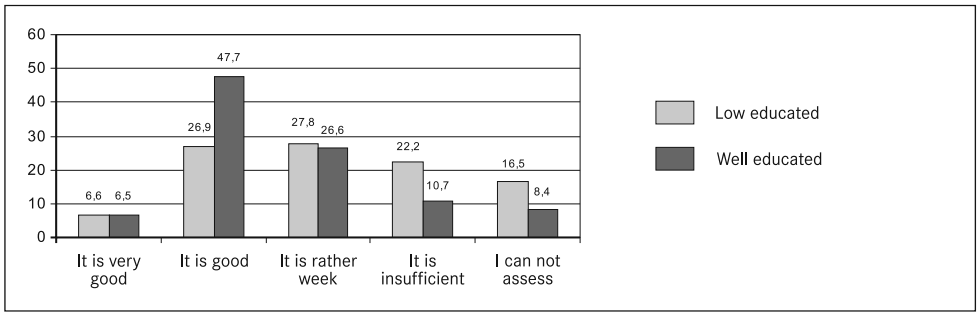
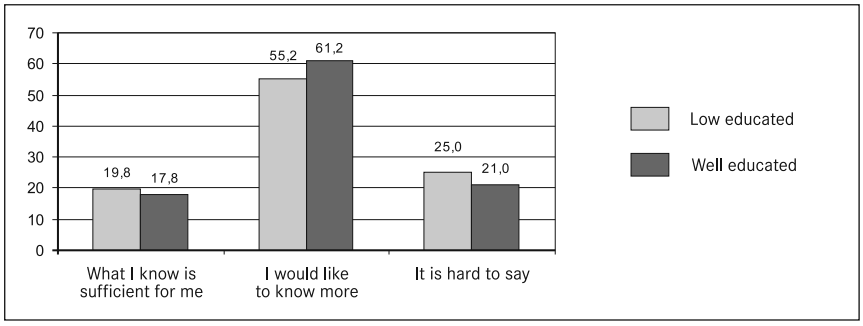
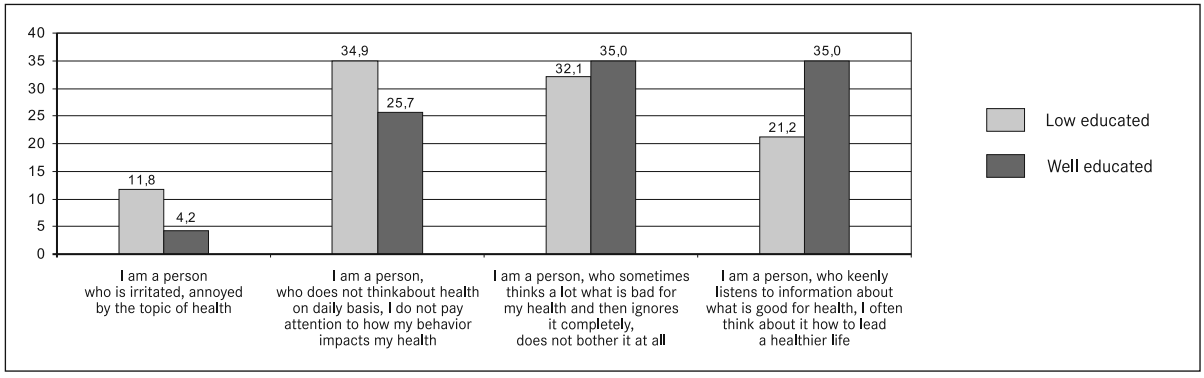


Table 6. Would you like to know more on how to take care about health?



When analysing the types of personality and their general attitude towards health as topic it was noted that only 21.2% of LEE answered that they are persons who keenly listens to information on what is good for health and in general thinks on how to lead a healthier life as opposed to group of well educated employees were 35.0% of interviewed noted this option (see Table 7). There were significantly more persons that were annoyed by the health topic and persons who doesnot think about their health on daily basis in group of low educated persons (46.7%) as opposed to well educated (29.9%) (see Table 7).

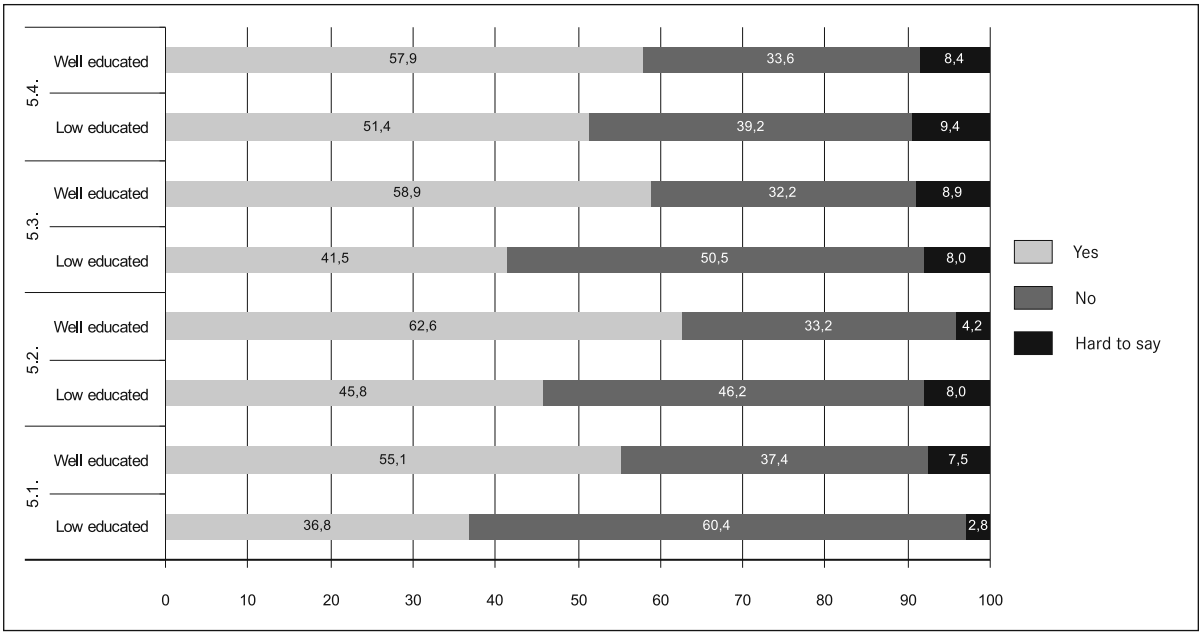
Table 7. Do you (and if yes how often) think about how your behaviour impacts your health?



The same trend could be observed when analysing the groups with regards to their habits of acquiring new knowledge and information. When asking the responendents whether they develop knowledge on foreging language, reads everyday papers or develops other skills it was apparent that in all of the questions there were more persons who answered „Yes" in group of well educated employees (e.g. answering the question „Are you a person who reads everyday papers, magazines?", 62.4% of WEE responded with „Yes" as opposed to 45.8% of LEE) (see Table 8).

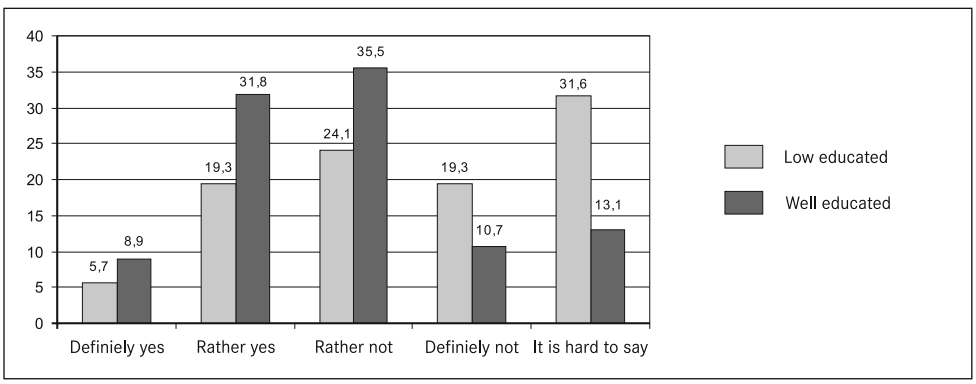
When analysing the ability of employees to go on with activities for health improvement it was noted that in both groups of employees there were more persons who answered that they are rather not or definitely not persistent in what they are doing to improve health (46.2% among WEE and 43.4%) however there were more of those who answered with definite yes or rather yes among those with better education (40.7% as opposed to 25.0% of LEE) (see Table 9).

Table 8. Are you are person who...?*



*5.1. ...develops knowledge of foreign language(s), 5.2. ...reads everyday papers, magazines, 5.3. ...develops skills of using a computer, the Internet, 5.4. ...improves occupational skills or hobbies by taking part in courses/ studies, reading professional magazines, using the Internet

Table 9. When you are starting to do something to improve your health, fit, body shape (e.g. a diet, exercising) are you persistent in it?



When analyzing the questions regarding the true level of knowledge about various issues of healthy lifestyle it was noted that there is varying level of knowledge about various issues. It was quite good in relatively simple questions like those concerning passive smoking and prevention. For example asked what passive smoking means more than 70% of respondents answered correctly with notably higher rate of correct answer among well educated employees (71.7% of LEE and 88.3% of WEE) (see Table 10). However it still could be said that this is a question where one would expect 90% correct answers. Situation regarding question on what illness prevention means shows similar picture with the exception that the gap between low educated and well educated employees are even bigger – 92.5% of WEE answered correctly as opposed to 55.7% of correct answers among low educated employees (see Table 11). Similar situation is also seen when asking what health lifestyle means – here there is similar gap between low educated and well educated employees – 93.5% and 75.0% (see Table 12).

Table 10. Passive smoking means?

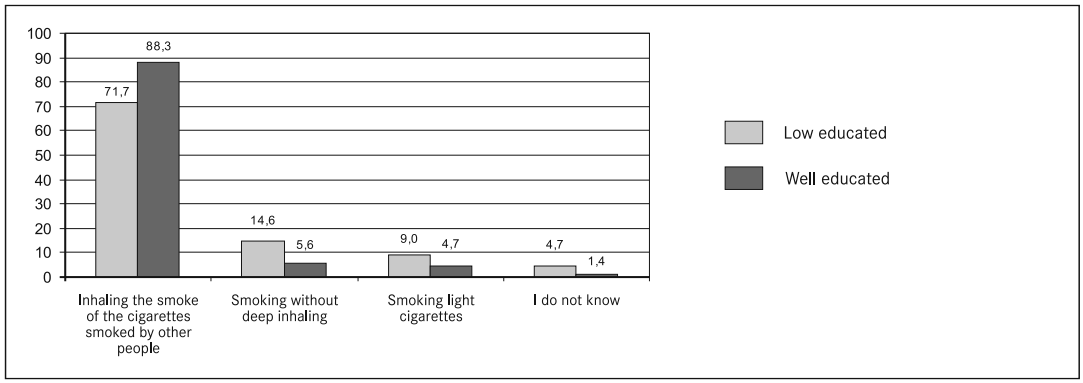


Table 11. Illness prevention means?

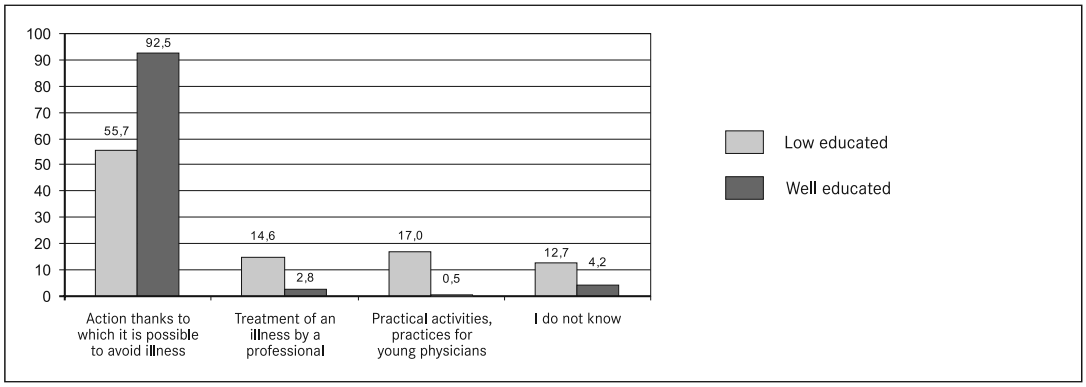


Table 12. Healthy lifestyle means?

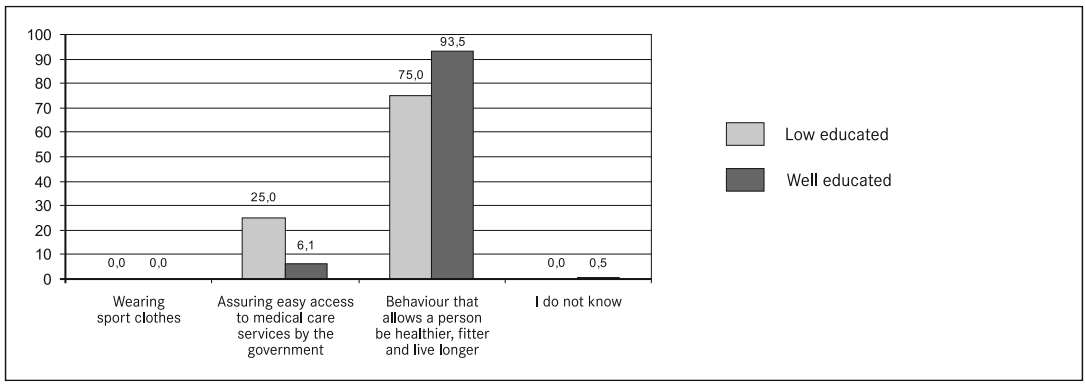


Table 13. Healthy food pyramid means?

The trend described before continues also for question related the healthy food pyramid, body mass index and cholesterol with most siginificant diference beeing that in these questions there are rather significant number of those who have choosen the answer „I do not know" – on particular question regarding health pyramid 32.5% of low educated and 12.6% of well educated choose to say that they don't know (see Table 13). Almost the same picture could be seen when analysing the question regarding the information what person should do if he/she wants to check body mass index – here as well we can observe 34.9% of low educated and 14.5% of well educated employees saying that they do not know (see Table 14). Similar problems were encountered by employees responding to question about what the cholesterol is with the slight diference in the level of „I do not know" answers among well educated employees which in this case were lover – 8.9% (see Table 15).

Table 14. A person who wants to check his/her Body mass index should?

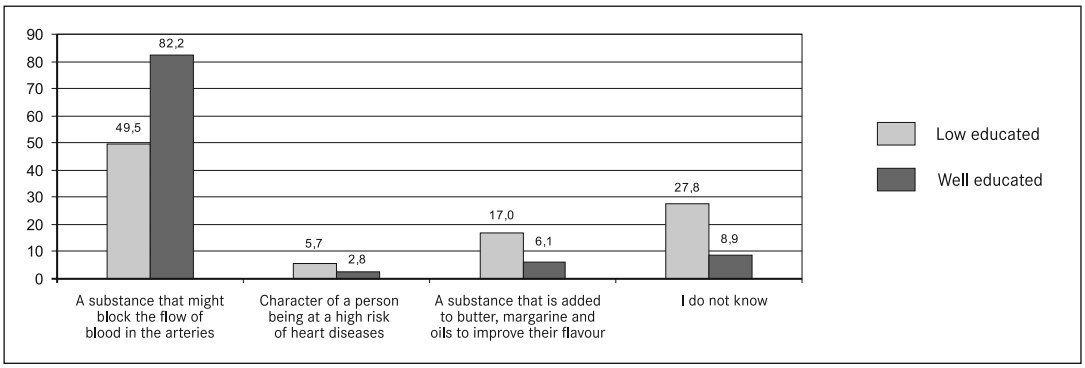
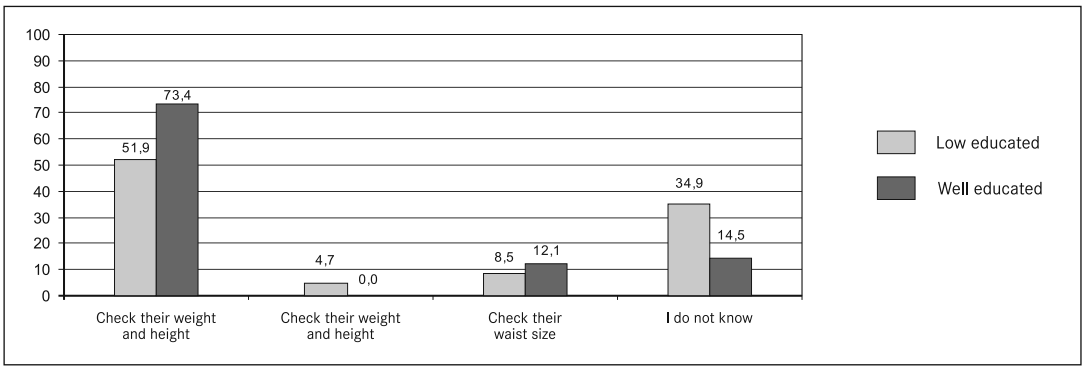


Table 15. Cholesterol is?

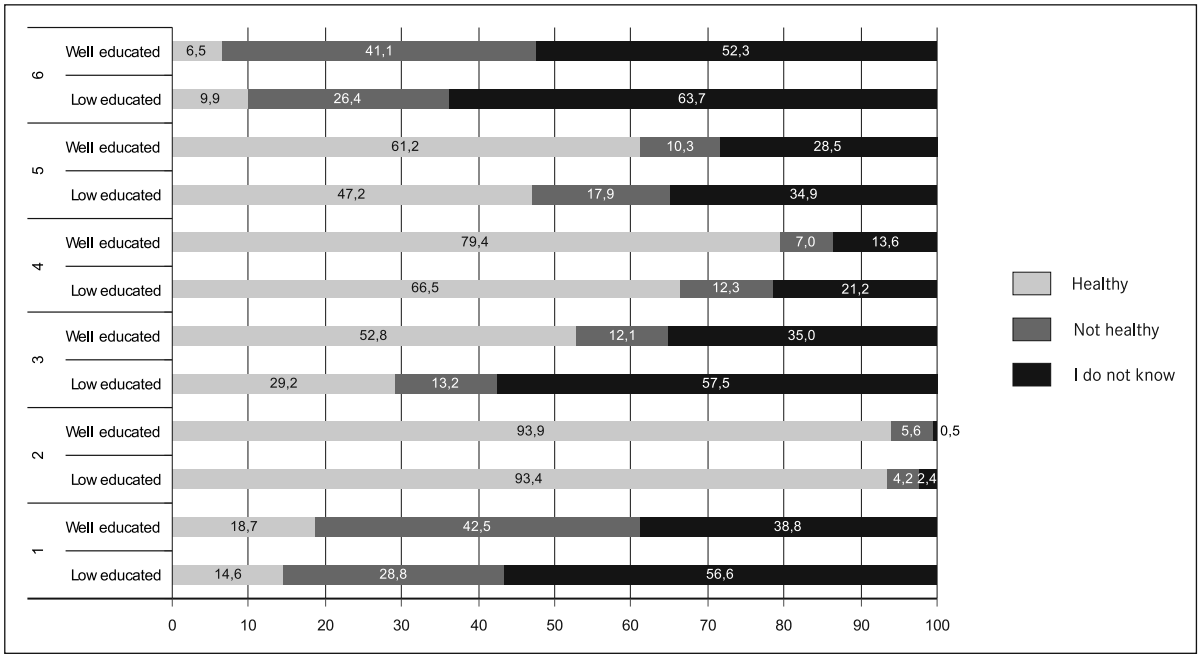


When asked about the things good or bad for health respondents were quite succeful with their answers to relatively well know issues like the positive effects of moderate physical excercise and fibers in diet (more than 93% of employees in both groups answered that pysical excersise is good for health and 66.5% of LEE and 79.4% of WEE answered that fibers are good) (see Table 16). It was not that easy to answers regarding cholesterol LDL, unsaturated fatty acids, antioxidants and free radicals. Here some of the answers show that the knowledge on these issues are insufficient, e.g. only 47.2% of low educated employees and 61.2% of well educated employees think that antioxidants are healthy (see Table 16). More to that in questions regarding health effects of cholesterol LDL and free radicals there were significant number of those who admitted that they don't know (e.g. 56.6% of LEE and 38.8% of WEE gave answer that they don't know the answer whether the cholesterol LDL is healty and 63.7% of LEE and 52.3% of WEE did't know about the health effects of free radicals (see Table 16).

When analysing situation regarding ability of employees to calculate the correct answer about the number of pills or amount of alcohol it could be seen that the trend is somehow similar to the questions above – about 75% (77.4%) of low educated employees are able to calculate the correct answer. Well educated employees are better at this question with 93.5% of those responding giving the correct answer (see Table 17). The question regarding the correct amount of alcohol has provided even more problems

for respondents and only 34.4% of LEE and 60.7% of WEE have got it right. In this case significant number of low educated employees have said that it is hard to say (41.5%) (see Table 18) and significant number have failed to find the right answer (24%). Among well educated emloyees 15.4% have failed and provided wrong answer and 23.8% had mentioned that it is hard to say (see Table 18).

Table 16. What do you think if it is good or bad for health?*



* 1. Cholesterol LDL, 2. Moderate physical exercise, 3. (Poly)unsaturated fatty acid, 4. Fiber, 5. Antioxidants, 6. Free radical

Table 17. How many pills you should take?

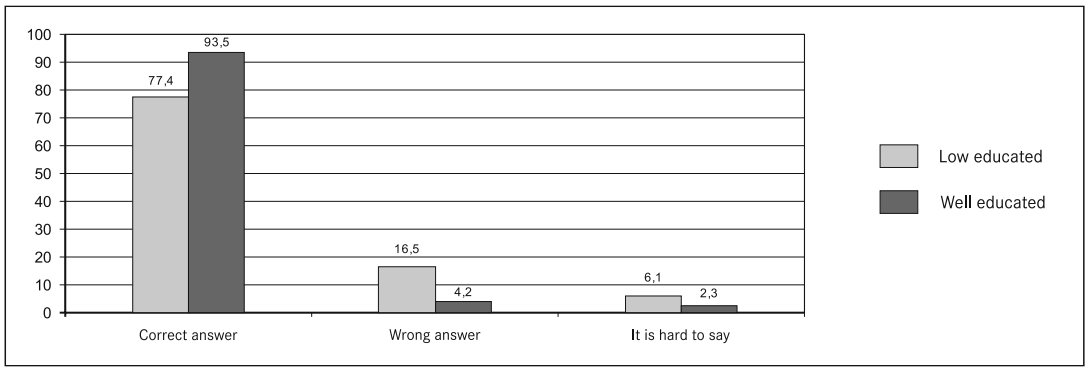
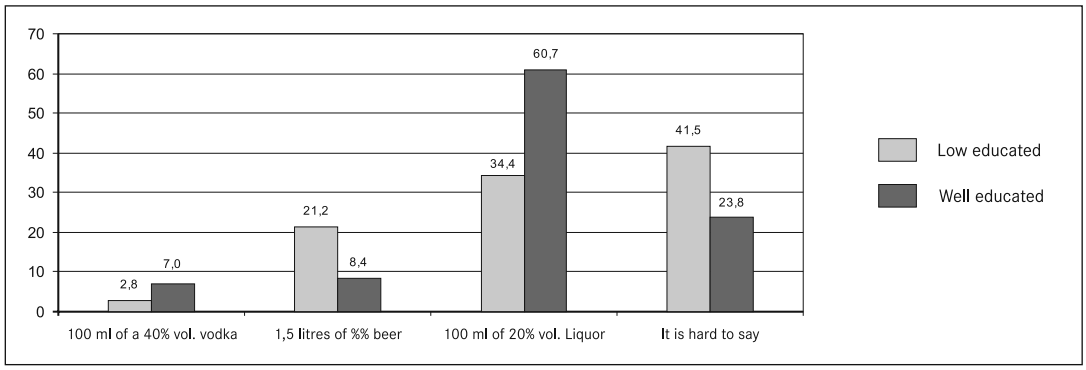


Table 18. 200 ml of 10% vol. alcohol is?



5. Attitutes towards health related education of Latvian employees and its preffered forms

There are many various ways of acquiring health related knowledge and skills however it is quite clear that there are many opinions on the most suitable way. Therefor this study addressed the issue by asking opinion of low and well educated employees on most typical and popular ways used for this sort of training. The analyis of data showed (see Table 19) that most popular ways to obtain health knowledge among low educated employees are:

- taking part in a competition, a campaign for health giving the opportunity of winning or getting something (in overall 75% mentioned this among their choise),
- taking part in fetes promoting healthy lifestyles, giving a possibility of having fun and doing something good for my health (71.7%) and
- taking part in a face-to-face meeting with a specialist i.e. a trainer, a nutritionist, a psychologist who after getting to know my problems, needs advises me on appropriate ways of taking care of health (70.8%).

On other hand well educted employees chose:

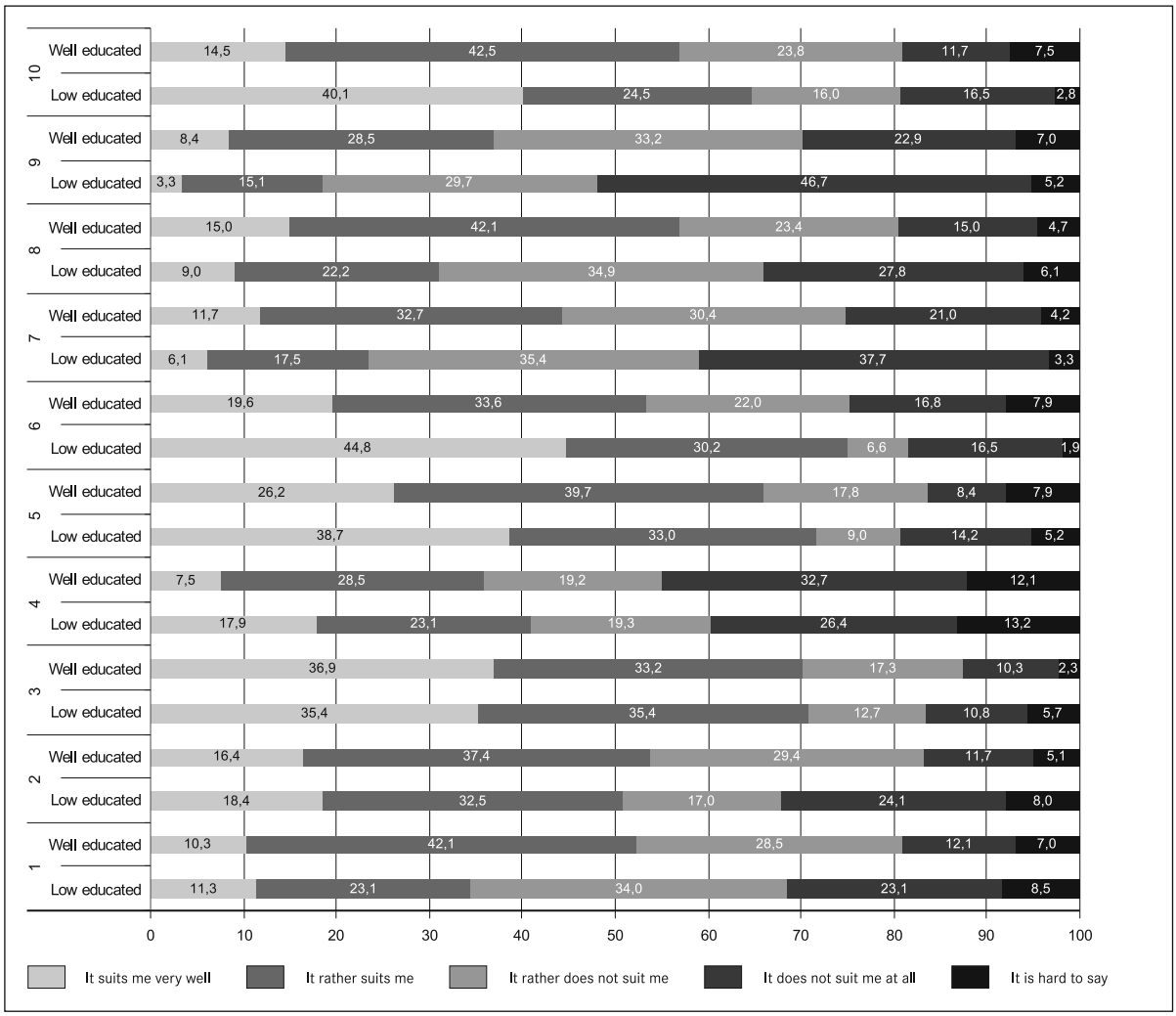
- taking part in a face-to-face meeting with a specialist i.e. a trainer, a nutritionist, a psychologist who after getting to know my problems, needs advises me on appropriate ways of taking care of health (70.1%);
- taking part in fetes promoting healthy lifestyles, giving a possibility of having fun and doing something good for my health (65.9%) and
- Watching on TV, listening in a radio broadcasts devoted to health (57%) and reading articles and information concerning health in papers or magazines (57.1%).

As shown the most popular choices are actually very similar among both groups with only slight differences. Largest difference among the groups were observed when only 23.6% of low educated employees choose the looking up in the internet for information on health as opposed to well educated where 44.4% choose this answer. Highest numbers of negative answers were observed among low educated workers regarding choice of reading a professional self-help books concerning health (51.9%).

When analysing ways to reach the target audience not only the type of training is important but also the understanding of possible encouraging factors that could improve the participation rate. Such question was asked during the interviews and apparently there are not too big differences between the low educated and well educated employees. Both groups recognised that the most encouraging factors (around 75% of respondents mentioned the top three) would be free of charge access to training, followed by being paid for taking part in training and by possibility to take treatment for health during the training (e.g. massage). Among the least encouraging factors such things as appearing in front of mass media, receiving leaflets on taking care on health and possibility to exchange opinions and share experiences were mostly mentioned. This clearly shows that traditional training with elements of experience exchange and involvement of mass media followed by production of information leaflets are probably not working for Latvian employees. Other encouraging factor often could be so called “role model” – a person who is listened to and followed. When such question low educated employees asked stated that they would prefer to listen to well know expert while well educated employees preferred to listen to physician or nurse. Other most popular answers for both groups included listening to other health expert of someone who has successfully coped with the problem.

When analysing the most discouraging factors that could discourage from participation in health related trainings the most important discouraging factor for both groups are necessity to pay for training – more than 60% of those interviewed mention this as their top choice. This was followed by the duration of the course over 2 hours. Interestingly there were quite big differences for many of the discouraging factors namely low educated employees were more afraid from filling the tests on knowledge about health, speaking in front of audience and concern that it will be hard to understand what the trainer says. In general for all factors well educated employees were less afraid and discouraged than employees with low education level.

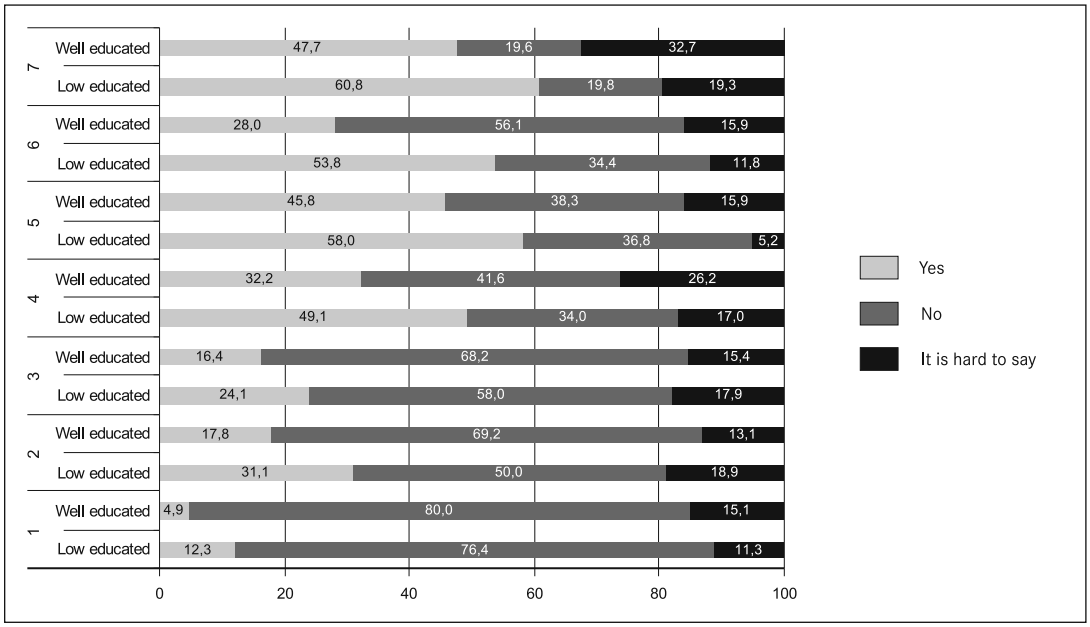
Table 19. Preferable ways of acquiring knowledge and skills concerning health.*



* 1 – Taking part in a lecture, a talk during which a specialist shares with a group of attendees ways of taking care of health, coping with diseases, 2 – Taking part in a meeting(s) where a group of participants under the supervision of a specialist practises some behaviours good for their health (such as those helping to cope with stress, quitting smoking), 3 – Taking part in a face-to-face meeting with a specialist i.e. a trainer, a nutritionist, a psychologist who after getting to know my problems, needs advises me on appropriate ways of taking care of health, 4 – Reading leaflets, pamphlets, watching posters concerning ways of taking care of health, 5 – Taking part in fetes promoting healthy lifestyles, giving a possibility of having fun and doing something good for my health, 6 – Taking part in a competition, a campaign for health giving the opportunity of winning or getting something, 7 – Looking in the Internet for information interesting/ important for my health, 8 – Reading articles and information concerning health in papers or magazines, 9 – Reading professional self-help books concerning health, 10 – Watching on TV, listening in a radio broadcasts devoted to health.

When training concerning health habits are organized there are usually various attitude towards such training. Most important statements are analysed in Table 20. When analysing the Latvian perception towards training devoted to health apparently it showed that both groups of employees are rather used to mis-use of such training used for selling some sort of products (typical experience in Latvia would include selling of vitamins, food supplements, training devices etc.). Quite few of the respondents mentioned that they simple don't have enough time for such training (58% of WEE and 45.8% of LEE). Among most popular answers there were also statement that such trainings only mess with ones head (trainers say one thing then a different one) (see Table 20). Suprisingly few of the respondents mentioned humiliation as discouraging factor.

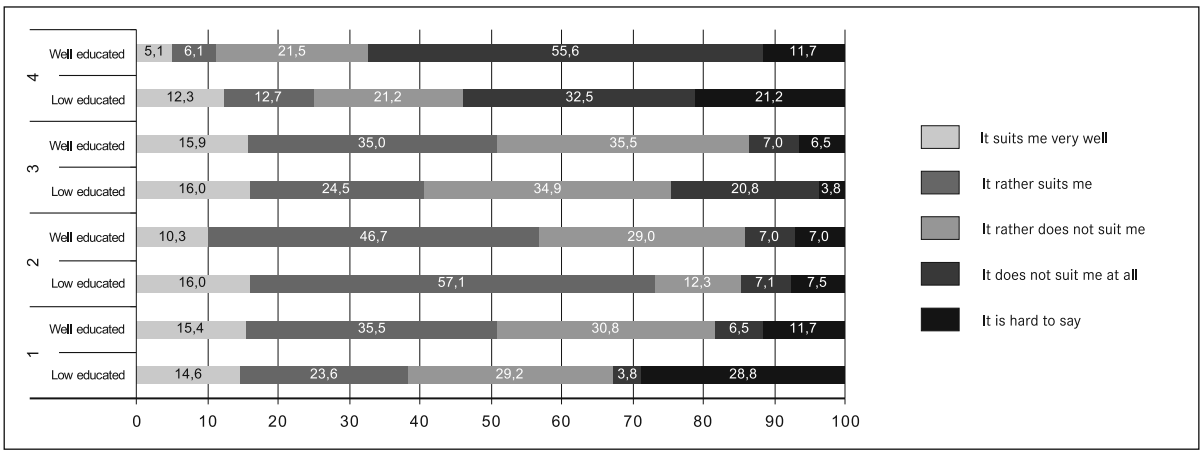
Table 20. I agree with following statements concerning trainings devoted to health.*



* 1 – Taking part in such a training would humiliate me in front of my friends, 2 – As long as I am a healthy person, I am not interested in such trainings, 3 – I know best how to take care of my health without such trainings, 4 – Such trainings only mess with ones head, trainers say one thing than a different one, 5 – I do not have enough time for such trainings, 6 – Sometimes it is better to know less about my own health, 7 – During such trainings their organisers usually want to sell something under the cover of talking about health.

Interestingly and rather surprisingly Latvian employees were not very keen on advising topics that should be taught in terms of health. Most popular suggestions were very traditional ones concerning drinking less alcohol and smoking less followed by advice to take part in check-ups and informing on their rights to when making medical check-ups. As one interesting difference between the groups well educated employees suggested training devoted to coping with stress and to take exercise more often that didn't bother the less educated so much.

Table 21. I agree with following statement.*



* 1 – My job and the conditions I work in are harmful to my health, 2 – Usually I ignore my health while I do my job, 3 – I do try to get to know how to work to avoid ailments, a disease, an accident, 4 – It is worth following at work only those health and safety rules braking of which would end up in a penalty.

Especially in Latvia it is very typical that people at work are not very worried about their health status until it is not causing serious problems and that quite a few employees are not linking their work

with their health status. This could rather clearly be seen in Table 21 where 73.1% of low educated workers accepts this statement – "Usually I ignore my health while I do my job". Such attitude is typical more commonly among low educated workers and this survey show similar trend as only 57% of well educated employees accepted this statement. Well educated workers were also more informed on the hazards at their workplaces as opposed to low educated employees (50.9% of WEE and 38.2% of LEE). Sadly only around one half of the well educated employees and less than 40% of low educated workers agreed that they are trying to learn to work in more safe way.

Despite the common believe that in many cases especially among low educated employees the co-wokers are not very supportive on efforts to improve health related habits (e.g. quitting of smoking, trying to loose weight or take physical exercise) results of this questionnaire shows quite the opposite – for all situation where such question were asked there were very few answers saying that co-workers are trying to make fun of it and in most of the cases the dominant answer (if there has been such activity lately) was that they are willing to help.

When analysing the expectations of employees from their company regarding improving of health or working environment not surprisingly most popular answers included very common benefits that are well know in Latvia like free vaccinations and possibility to attended free medical check-ups and treatments. Co-financing of recreational activities was also among most commonly chosen options. Well educated employees also mentioned organisation of sport activities and creation of less stressful working conditions.

6. Summary

According to national study around 45% of all respondents feel their health situation are good according to self estimation which corresponds with data from other studies. However close to 20% suffer from chronic disorders or have suffered in accidents leading to health disturbances with no significant diferences between low and well educated workers.

Relatively small proportion (around half of well educated and only third of low educated employees) of respondents think that their knowledge on health is good and majority of these are willing to know more. This was confirmed in study as respondents were able to answer most of relatively simple questions designed to test their health related knowledge but had difficulties when answering the most difficult and confusing questions.

Traditional ways of training like participation in competitions or festivities promoting healthy life styles seems to be working better for low educated employees while face-to-face interviews, reading and listening to special TV or radio broadcasts devoted to health are working better for well educated employees.

Free participation and opportunity to receive something free (e.g.massage) are best encouraging factors towards convincing persons to take part in training while traditional leaflets seems to be outdated for Latvian population.

Neccesity to pay or too long training hours are moust discouraging factors as well as too much interest from trainers side to their level of existing knowledge and fear that there will ne necessity to speak in front of audience that were most important distractors for low educated workers.

It seems that Latvian employees are also rather sceptical about health related training as it has probably been misused often by trying to sell something during such acitivities.

Co-workers should be involved in change of health related habits as suprisingly high level of respondents noted their supportive role.

Smoking and drinking are most popular topics that the employees themselves would propose for training as well as activities that are designed to improve health examinations. Stress apparently are not the topic of interest for low educated employees while well employed state this as an issue.

As far as the field of occupational health is concerned very few persons are interested in learning safe way of working and rather large proportion of workers are used to work without worrying on their health issues.

Free vaccinations and medical services are probably still the best way of attracting employees to particular company and probably to training on healthy living.

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11. The low educated employees towards health — a Polish example

Elżbieta Korzeniowska

1. Introduction

Analysing the period of the last twenty years in Poland, we can observe thorough transformations of education structure of the society including working population. The number of people with basic vocational education (about 30%) has maintained the similar level; however, substantial changes have taken place in extreme education levels of Polish employees. The percentage of people with education lower than basic vocational has decreased from 33% to 10%, while that of people with tertiary education has increased from 10% to 22%. Moreover, a slight rise has occurred as for the average level, from 30% to 38%. (Statistical Yearbook of the Republic of Poland, 1993, Demographic Yearbook, 2006, Statistical Yearbook of the Republic of Poland, 2008). Therefore, at present we have a much better educated working community as 60% of people have at least secondary or post-secondary education, and only 40% do not reach this level, whereas 20 years ago this proportion looked just inversely. This is a completely new situation, in general highly positive; however, it may carry with it a drop of meaning of less educated community in the activities of the State's policy, including health and work spheres. This threat is especially real in case of people with primary education who constitute only 10% of working population, and thus, who become a marginal target group (interest group).

Since the appearance of The Black Report (1988), low level of education (and incomes) has been commonly believed to be a predicator of insufficient knowledge of health issues, smaller care of health, and in consequence worse health status of people who belong to this type of sociological category. As far as Polish society is concerned, the relationships between education level and health and its determinants have been analysed just since the mid-90s[1], when the diagnosis made in connection with relationships between education and health behaviours (based on data from CBOS, IFiS PAN, GUS and PBS) showed that higher level of education meant, among others, healthier eating habits, more frequent physical activity, drop in the percentages of smokers and rise in the percentages of people who have given up smoking (Ostrowska, 1999). Further (conducted since 2002) representative all-Poland research, conducted within the programmes concerning cardiovascular system diseases (NATPOL PLUS, WOBASZ), showed e.g. worse health status parameters among lower educated people (e.g. more common obesity and overweight), smaller knowledge on the prevention of hypertension or its complications as well as less healthy eating habits (Kwaśniewska et al 2007)[2]. The results of the so-called Social Diagnosis, made among a representative sample of Polish people in 2000, 2003, 2005 and 2007 indicated that lower education is connected with more frequent use of health care, smoking cigarettes, and consumption of alcohol (www.diagnoza.com). As for the people in employment, similar tendencies are confirmed by cyclic studies of IMP in Łódź, among others, from 1988, 2002 and 2007. Their findings prove that worse education is connected with

[1] Before, this kind of analyses referred to e.g. only medical behaviours (Titkow, 1976) or Warsaw citizens (POL-MONICA-1983).
[2] Collection of articles on the results of WOBASZ can be also found in Polish Cardiology, 2005, 63.

smaller physical activity, more often smoking cigarettes and drinking alcohol and worse eating habits (Gniazdowski, 1990, Korzeniowska, 2004, Korzeniowska, 2008). Furthermore, in general, such people pay less attention to health issues in their reflection, are less satisfied with their health status, and rarely link future change of this state with their behaviour or with taking care of it. Lower level of education more often correlates with the lack of interest in information present in media on how to avoid illnesses or how to care for health better, and with the feeling that these kinds of messages are difficult to understand (Korzeniowska, 2008).

Phenomena illustrated above show that low educated Polish employees are the community threatened with social exclusion in the sphere of health, and in consequence, they can be in a worse position in the labour market, which indicates an urgent need to widen the range of actions which aim at giving them equal opportunities. One of the methods of achieving such objective can be a proper conduct of health education and health promotion which means taking into account, in a much bigger scope than so far, a specific way of thinking and behaviour towards health of this group, as a base for creating effective projects of this kind for them.

However, we deal with the situation in which undertakings connected with health are addressed to everybody (which may cause the risk that to nobody) or to the community with higher status in social structure. For example, according to data of Polish National Centre for Workplace Health Promotion in Nofer Institute of Occupational Medicine[3] in Łódź of 2002 a range of activities within health programmes in Polish companies are addressed to e.g. managers (Korzeniowska, 2004). Mass educational campaigns are conducted in a way which requires a recipient who can deal with written texts skilfully and who understands messages very well. Even information concerning medicinal products is not adjusted to perceptive abilities of a low educated client (Cianciara, 2006). Health promotion is criticized as a petrifying strategy or even increasing inequalities in health (Słońska, 2005).

The aim of the hereby chapter is to characterize low educated employees as a target group of influence of education and health promotion, including their dimension which concerns the formation of healthy behaviours (also in comparison to other countries participating in the described project). Therefore, the text will present their selected needs which condition perception and acceptance or rejection of offers included in the projects of this type, identified on the basis of subjective and objective data. A presented "portrait" of such an addressee consists of the following elements: self-perceived health, sense of responsibility for own health, behaviour towards health, subjective evaluation of knowledge on how to care for health and readiness to improve it in the context of objective level of knowledge of selected information of health education (the so-called "health literacy") and preferences concerning health activities (among others in the work place).

This characteristic is based on data collected through questionnaire based interviews with 405 employees born between 1955 and 1984 representing in equal parts four education groups: primary, basic vocational, secondary/post-secondary, and tertiary. Half of the interviewed were women and half – men. Specific character of low educated people, who included graduates of primary and basic vocational schools, was sought comparing these people with those with at least secondary/post-secondary education.

2. Health in everyday reflection of low educated employees in Poland

Previous studies of KCPZwMP IMP in Łódź showed that low educated employees in Poland do not think about what health is, what it is like and what can be done for it when nothing wrong is happening with it (the phenomenon defined by C. Herzlich (1973) as so-called "health in void"). Thus, in the diagnosis reported here a self-perceived health was emphasised. It turned out that only about every second low educated employee believes that he/she is a person with good health, while among better educated people 73% think so, and twice more interviewed with low education (41% to 22%) claim that they often suffer from some ailments, but these are not serious problems[4]. From this point of view we can assume that a considerable part of employees with low level of education may be eager to participate in health undertakings.

[3] Hereinafter referred to as KCPZwMP.

[4] $p<0.0001$, $df=2$, x^2 (Pearson's chi-square)=20,4.

An important phenomenon, which describes individual's attitude to health and predetermines its interest in the development of knowledge or skills in this scope, is also presence in the way of thinking a reflexion on what his/her personal influence on health is, and a belief that it is vital. It appears that low educated employees differ in this point from those better educated. 45% state that they do not think about health on daily basis, do not pay attention to how their behaviour impacts their health (only 28% of the second group think like that). In addition, only about every fifth respondent says that he/she is a person who keenly listens to information about what is good for health and often thinks about it how to lead a healthier life (in a control group- every third one)[5]. Thus, a visible barrier was found in reaching low educated employees, because a considerable part of them who do not take responsibility for their own health status may not feel addressees of messages and activities which aim at leading a healthy lifestyle. The situation among low educated employees is also worse in this scope in comparison to the Latvians, Slovenians or Spanish, where about every third respondent does not think on daily basis about how his/her behaviour impacts his/her health and slightly bigger percentages often think about what could be done for health (21%, 32%, 31% respectively, whereas in Poland 18%)[6].

3. Health behaviours

The final aim of education and promotion of health is making healthy behaviours common for the addressees. From this point of view, the diagnosis of how the target group treats their health is a fundamental premise of planning activities of the programmes and strategies of this type. It appears that lower educated employees less often than better educated practice healthy behaviours in a significantly static way.

Table 1. Taking care of health by employees with different levels of education.

Kind of activity	% of low educated	% of better educated
Avoiding or cutting down on eating fats	35	62
Taking care of physical activity on daily basis	21	49
Having systematic check-ups	23	39
Trying to work in the least harmful way for health	59	67
Trying to drink only small portions of alcohol or being an abstainer	68	66

Thus, as the table shows employees with primary and basic vocational education appear to care less about own health, as far as analysed areas are concerned, than those higher educated, which means that the activities within health education and health promotion should be addressed to them in particular.

4. Knowledge regarding health – subjective and objective aspects

An important pre-condition influencing the interest in the offer of activities connected with taking care of health is self-assessment of knowledge in this scope and the need of its broadening. It turns out that together with the decrease of education level the percentage of people who claim that they know how to take care of health significantly drops (79%, 61%, 40%, 29% respectively[7]), and achieves an average level of about every third person in the characterized group. Moreover, only every third respondent (36%) declares willingness to improve his/her knowledge, whereas in the control group – every second one[8]. Thus, low educated employees assess their knowledge lower but they also rarely notice sense in improving it. Better educated employees are usually satisfied with their knowledge in this scope; however, half of them still want to improve it. As for the situation of Polish low educated employees compared to other countries – a similar

[5] $p<0.0001$, $df=3$, $x^2=28.0$
[6] $p<0.0001$, $df=12$, $x^2=113.7$
[7] $p<0.0001$, $df=4$, $x^2= 41.7$
[8] $p<0.01$, $df=2$, $x^2=13.3$

percentage of the Latvians assess low their knowledge, while the Spanish and Slovenians twice more often believe that their knowledge is good or very good[9]. In addition, the lowest rate of need to improve such knowledge can be observed in Poland, in comparison to 48.5% in Slovenia, 55% Latvia and 71% in Spain[10].

To objectify the needs within health education of low educated employees the interviews checked how correctly they understand terms often used in this type of messages, the so-called "health literacy" (Iwanowicz, 2009). They included: passive smoking, illness prevention, healthy lifestyle, healthy food pyramid, BMI (body mass index), cholesterol, in case of which the respondents had to choose one out of three definitions which they associated this term with. As for the: cholesterol LDL, moderate physical exercise, polyunsaturated fatty acid, fiber, free radicals, antioxidants, they were asked to indicate whether these agents are good or bad for health.

Table 2. Correct answers, of employees with different levels of education, concerning terms used in health education messages.

Term	% of low educated	% of better educated
Illness prevention	90	95
Passive smoking	93	96
Moderate physical activity	88	90
Healthy lifestyle	80	89
Cholesterol	74	91
Fiber	69	91
BMI	65	88
Healthy food pyramid	65	89
Antioxidants	18	31
Free radicals	23	49
Polyunsaturated fatty acid	25	46
Cholesterol LDL	43	52

The meanings of such terms as: illness prevention, passive smoking, moderate physical activity, healthy lifestyle are commonly identified correctly in both education groups. In other cases low educated employees manage worse in this specific test than those with higher education. Every fifth graduate of primary or basic vocational school is not aware of what cholesterol is, and about every third person does not know what healthy food pyramid is, and has not heard about index thanks to which we can check whether our body weight is good for our health. The results are similar when the respondents are asked to assess how fiber influences health, and even worse when they have to indicate influence on health of cholesterol LDL, antioxidants, free radicals and polyunsaturated fatty acid. Therefore, these terms often mentioned in education messages are practically "incomprehensible" for low educated employees (it can be added here that also Polish intelligentsia presents weak knowledge of health consequences of these agents).

5. Attitudes towards health education and its preferred forms

One of the questions which have to be faced by the authors of undertakings connected with health education and health promotion concerns the problem – by means of what sources knowledge and skills necessary to treat own health and sometimes others' health reasonably could be delivered to target groups. The table below shows answers on this topic of better and worse educated employees.

[9] $p<0.0001$, df =12, $x^2=113.6$

[10] $p<0.0001$, df=6, $x^2=69.5$

Table 3. Preferred sources of acquiring knowledge and skills regarding health among employees of different level of education.

Source type	% of low educated	% of higher educated
TV, radio	74	81
Leaflets, posters	56	58
Individual advice	55	68
Articles in papers or magazines	51	72
Professional self-help books	44	66
Fetes	40	47
Competitions, campaigns	40	40
Internet	37	76
Workshops	37	53
Lectures	27	44

The most often accepted, by more than three fourth of all respondents, way of acquiring knowledge and skills regarding health is watching TV and listening to the radio. Similar interest (but smaller) of employees of different level of education can be noticed in case of: leaflets and posters, campaigns and competitions giving the opportunity of winning something, and fetes as well as face-to-face meetings with specialists who advise on appropriate ways of taking care of health[11]. So these ways of conveying information regarding health are effective to a similar extent for both better and worse educated employees. As for: articles in papers and magazines, self-help books, Internet, lectures and workshops- they are less effective as far as low educated people are concerned[12]- especially the last three ways, as we can reach only about every third respondent through them. Besides, Polish low educated employees have the strongest aversion for lectures in comparison to other countries participating in the project, for example the Slovenians and the Spanish have almost twice smaller[13].

As for the topics which according to the interviewed should be taught to people in our country, lower and higher educated employees are in a similar opinion. They most often point to: a healthy diet, smoking cigarettes (about 40% of the respondents), drinking alcohol, and coping with stress (about 30%).

When it comes to programmes propagating health organized by work establishments lower and higher educated employees have actually the same requirements. The most often, about every second respondent wants to have possibility of medical check-ups and treatment by various specialists financed by an employer. A slight smaller percentage wants the company to take care of the health and safety at the worksite much more than it is required by law. Almost every third person requires co-financing employees' recreation/leisure by the company. About every fifth respondent requests taking care by the company management of creating less stressful working conditions. Only less than every tenth employee indicates that a company could organize lectures and distribute leaflets concerning ways of taking care of health, invite to trainings on how to drink alcohol so as not to harm health and support in quitting smoking.

Undertakings within health education and health promotion are often carried out taking into consideration various trainings. They cannot be overestimated in the situation when we want to deliver knowledge which goes beyond terms and basic information or to improve some particular skills of a target group. However, the challenge for the creators of health education and health promotion programmes exists in how to make people participate in them. The survey reported here exposed a general attitude to such trainings, what encourages to them and discourages from participating in them, and what preferences are as for the people who would lead such trainings.

It turned out that 42% of low educated and 31% of higher educated employees think[14] that they know best how to take care of health without such trainings, which suggests that they negate the sense of this kind of undertakings. Whereas the belief that "as long as I am a healthy person, I am not interested

[11] Lack of important statistical relationships between education level and preferred source.
[12] Respectively: $p<0.01$, $df=4$, $x^2=18.1$; $p<0.001$, $df=4$, $x^2=21.7$; $p<0.0001$, $df=4$, $x^2=67.6$; $p<0.001$, $df=4$, $x^2=19.3$, $p<0.01$, $df=4$, $x^2=16.5$
[13] $p<0.0001$, $df=12$, $x^2=113.9$
[14] No statistically important relationship occurred.

in such trainings" is expressed by about every second lower educated and about every third better educated person (53% and 35% respectively)[15]. Therefore, the carried out diagnosis showed the existence of a serious problem in the way of thinking of low educated employees about trainings devoted to health. More than 40% negate the sense of such trainings and more than every second one considers participating in trainings only in the situation when something bad is happening with their health. Moreover, both opinions mentioned above are present among low educated employees to the largest extent in Poland in comparison to other interviewed countries[16].

As for different types of fears concerning trainings, a belief that sometimes it is better to know less about own health in a statistically significant way more often accompanies lower educated employees – about every second one (56%) than better educated where it is expressed by every third person (33%)[17]. The results are similar in case of the opinion that "such trainings only mess with ones head, trainers say one thing then a different one". Once again, more than a half of the lower educated and about every third better educated interviewed agree with it[18]. In addition, less educated employees suspect that "during such trainings their organizers usually want to sell something under the cover of talking about health". Such fears are expressed by 58% of them, while in the control group – 42%[19]. On the other hand, education level does not diversify common complaints about lack of time for such trainings, which is declared by about three fourth of all respondents. It is also worth mentioning that as far as only low educated employees are concerned those from Poland most often point to this problem (79% of them). Among the Latvians it is 58%, the Slovenians – 49%, the Spanish – 41%. Thus, our graduates of primary and basic vocational schools have too little time for trainings devoted to health[20].

Table 4. Factors determining participation in trainings concerning health of the employees of different level of education.

Type of motivating determinant	% of low educated	% of higher educated
Free of charge access	73	78
Being paid for participation	73	65
Treatment for health during the training	71	83
Organised during work time	72	64
Checking health during the training	70	80
A small gift	65	61
Possibility of getting answers to own questions	65	78
Possibility of practicing something with expert's assistance	64	75
Taking part in a lottery with small gifts	58	51
Snacks served during the training	51	45
Possibility of exchanging opinions, sharing experience	48	59
A diploma, a certificate of attending the training	48	57
Pamphlets/leaflets for participants	44	48
Possibility of appearing in mass media	31	25

To sum up, employees with primary and basic vocational education show worse attitude to trainings concerning health than graduates of secondary or tertiary schools. More often they believe that they know best how to care for their health without trainings, that it is better to know less about own health or not to care about such issues as long as they are healthy, they do not trust information propagated there, and even suspect that organizers want to sell some products under the cover of trainings. Therefore, the

[15] $p<0.001$, df=2, $x^2=17.9$
[16] $p<0.0001$, df=6, $x^2=52.6$, $p<0.0001$, df=6, $x^2= 59.1$
[17] $p<0.0001$, df=2, $x^2= 22.8$
[18] $p<0.0001$, df=2, $x^2= 23.1$
[19] $p<0.01$, df=2, $x^2=10.4$
[20] $p<0.0001$, df=6, $x^2=84.2$

interviewed group not only turns out to be unsure about the sense of such trainings but its members have also more fears connected with them.

Health education and health promotion is mainly addressed to people who do not feel the need or cannot broaden their knowledge and skills connected with taking care of health. It often means the necessity not only to prepare the best quality forms and topics of programmes and campaigns of this kind but also to design and carry our undertakings the aim of which is to encourage potential addressees to find interest in them, to draw their attention, or/and to avoid such of them which would discourage, deter the addressees. Here are the respondents' opinions on this kind of activities often used in practice.

It appeared that low educated employees do not differ from those with higher education[21]. Free of charge access has the strongest motivating function. What is interesting, the respondents often opt for paying them for their participation in the training. The interviewed would be also encouraged by a possibility of different health services- as massage or checking health (e.g. glucose blood level or blood pressure), as well as organizing them during work time, by work establishment.

Below, there are factors discouraging interviewed groups from participating in trainings concerning health.

Table 5. Factors discouraging from participating in trainings concerning health.

Type of discouraging determinant	% of low educated	% of higher educated
A necessity to pay for it	90	85
Duration of the course over two hours	72	66
Filling in a test checking knowledge	58	33
A necessity to speak in front of a group of people	52	33
Forbidding something and scaring off	51	29
Content difficult to implement in everyday life	45	23
Concern that an employer will be informed about participant's health status	39	22
Content difficult to understand	38	22
Checking state of health	31	19

It appears that the representatives of the characterized group differ from the control group much more than when taking into account encouraging factors. Only: a necessity to pay for it, its too long duration and a concern that the state of health would be checked are chosen by both lower and higher educated employees the same often. But, first two points are almost commonly indicated barriers, whereas the third one belongs to the least often chosen. The graduates of primary and basic vocational schools statistically significantly more often declare that they would not take part in the training during which they would have to fill in a test, speak in front of a group of people, or that they would be forbidden to do some things or scared off of doing them.

About half of them fear it while in the control group it is true for only about every third person. In addition, almost half of worse educated employees would not participate in the training which would deliver knowledge difficult to implement in everyday life, and slightly fewer of them in such training during which trainers would say things difficult to understand (in this case only every fifth person would resign). Low level of education is also accompanied by the fear that through trainings data connected with the state of health could reach an employer[22].

Preferences concerning speakers of the trainings devoted to health are similar among employees with lower and higher level of education. The only statistically important difference refers to readiness to learn from someone who successfully coped with a health problem but it is not significant. This type of speaker is most often accepted by higher educated people (every third one) whereas among the low educated by only every fourth one[23]. In general, it appears that the vast majority of employees (about every second respondent) expect

[21] Only in case of certificates and diplomas of attending the training there was a statistically significant but weak difference.

[22] In all cases $p<0.0001$, df=2, a x^2 32.7; 22.1; 22.7; 28.9; 14.2; 28.5 respectively.

[23] $p<0.01$, df=1, $x^2=8.2$

in this role a person with professional experience in health problems – a physician, a nurse, a psychologist. Other potential speakers (a well known acknowledged expert, a practitioner of alternative medicine, clerical) receive significantly fewer points.

6. Summary of the results and conclusions for health education and health promotion

It turned out, and actually it was confirmed once again[24], that Polish employees with primary and basic vocational education differ in a negative way in their general attitude to health and way of taking care of it from those who continued education. They less often introduce changes which are good for health e.g. in their eating habits, care less about everyday physical activity, do not often control systematically their state of health. Moreover, half of them do not think on daily basis about how their behaviour impacts their health, and only every fifth one keenly listens to information about what is good for health and thinks about it how to lead a healthier life. Thus, they are rarely aware of this type of issues. For about every second person only an illness brings about interest in trainings concerning health.

As for the knowledge regarding health, quite commonly- three out of four respondents admit that it is rather weak, or even insufficient, and at the same time only about every third person would like to know more about health. This attitude could be expressed as follows "I do not know much about it how to take care about my health but what I know is sufficient for me" (and among better educated: "my knowledge is good and I would like to know more"). The interpretation of such attitude constitutes a real challenge. It cannot be perceived as simply (or only) a sign of health ignorance. It seems that critical (and accurate with reference to the level of "health literacy" of the interviewed) assessment of own knowledge may show that health is meaningful (which appears to be proved by findings of other studies about worth of health in Polish society Puchalski, 2009). What should be also deeply analysed is understanding the reason- why they do not want to know more about health if they do not assess well their knowledge. In more than 40% of cases, the conviction that "what I know is sufficient for me" may result from the belief "I know best how to take care of my health" and here the situation is quite clear. However, a question arises whether in the remaining cases we do not deal with an opinion: "what I know has to be sufficient". Such interpretation is confirmed by signs of: a) concern, b) general distrust towards what is taught, c) retreat or lack of faith in the possibility of improving own knowledge. As for the concern, more than a half of the interviewed with low level of education are in the opinion that sometimes it is better to know less about own health. It may result first and foremost from critical assessment of the functioning of health care system in Poland, including the possibility of receiving help in the event of an illness[25]. The indicator of the general distrust/suspiciousness is e.g. a concern of almost 60% of the respondents with primary and basic vocational education that during such trainings their organizers would want to sell something under the cover of talking about health. Critical attitude to health education is illustrated by the opinions of about every second low educated employee that such trainings: give contradictory information ("trainers say one thing than a different one"), or information difficult to implement in everyday life or which raises fear or constitutes a form of prohibitions. In addition every third person was concerned that it would be difficult to understand. Such attitude towards trainings concerning health may obviously result from earlier learning experience from school, and not originate from critical assessment of undertakings devoted to health; however, it has to be taken into account. To sum up, it may be assumed that not everyone from the three fourth of low educated employees declaring that "it is sufficient for them" are clearly against broadening their knowledge about it how to take care of their health.

An analysis of particular preferences concerning the sources by means of which low educated employees would like to be informed about how to take care of health, showed that three fourth of them opt for this type of programmes on the radio and TV, and more than a half – for posters, leaflets, articles in press and individual advice given by a specialist. Thus, they see themselves as addresses of media

[24] Findings of the studies of Polish National Centre for Workplace Health Promotion in Nofer Institute of Occupational Medicine in Łódź were discusses earlier in this chapter.

[25] Such a tendency was observed i.e. on the basis of the unstructured interviews of 50 low educated employees conducted by the Polish National Centre for Workplace Health Promotion in 2009.

broadcasts and educational campaigns. They see the second source of knowledge in face-to-face meetings with e.g. a nutritionist or a psychologist. So, it may be assumed that employees from the characterized group, in comparison to those from the control group (who apart from media point to the Internet, press and self-help books), seem to be more prepared for passive reception, when listening to the radio, watching TV, looking at billboards, posters, and face-to-face advice – maybe associated with visits at a doctor's. On the other hand, both communities similarly and very rarely see work establishments in the role of knowledge suppliers or creators of skills connected with taking care of health. But they see their employers as organizers of above standard activities the aim of which is to take care of the health and safety at the worksite, create less stressful working conditions and finance employees' medical check-ups and treatment as well as recreation/leisure.

Among the things which would encourage to take part in a training concerning health there are first of all (for about three fourth of the low educated employees) free of charge access, its organisation during the work time, and a possibility of taking part in a treatment for health and checking health during the training. What is surprising, readiness to take money for taking part in training is at a similar level.

Among factors discouraging graduates of primary or basic vocational schools from participation in the training of this type there are, for about every second one, a necessity to fill in a test or to speak in front of a group of people. Low level of education was also accompanied by the fear that through trainings an employer will learn about its employees' health status.

As far as speakers of such trainings are concerned, low educated Polish employees most often (about 40%) choose specialists i.e. physicians, nurses, midwives, or other people associated with health e.g. a psychologist, a nutritionist, a physiotherapist. Four times more rarely they see in this role e.g. a celebrity, five times less often – practitioners of alternative medicine. Thus, subjectively, the right and probably competence to conduct this type of activity would be given first of all to medical professions representatives (or associated with medicine).

Organizers of health education undertakings addressed to low educated employees have to face a very difficult challenge. Firstly, they should create a bigger interest in health and a sense of responsibility for its state among this kind of people. It means a necessity to change a belief "there is no point in taking care of health as long as I am a healthy person" or assumptions that everyone knows how to take care of health because he/she has learnt it during his/her life. In this sense, health education faces an essential barrier which is as a matter of fact the lack of demand for its messages and not a feeling of its deficiency or better quality problem.

Next, a need arises to minimize the aversion to learning, broadening knowledge on how to behave reasonably so as not to harm own health, and how to strengthen it, which is present among two third of low educated employees. Fortunately, they are used to the fact that health is discussed in mass media and that they can see in their surrounding posters (billboards) or leaflets devoted to health. Therefore, these are some ways of reaching them. However, in case of mass media a problem arises that these people belong to a rather small group (a minority), and this kind of messages are to reach the wide audience (a majority), thus media may not be interested in information addressed to that group or at least might limit it. On the other hand, quality studies conducted by KCPZwMP IMP in Łódź show that programmes devoted to health on TV, or on the radio easily lose contest with the broadcast of films or sport competitions in the choices of this type of people (Perception..., 2009). As a result, posters and leaflets remain which are distributed in the surroundings of these people, but rather not in work establishments which expect employees to care for traditional activities connected with health and safety at the worksite, check-ups and treatment. Alternatively, information can be also conveyed to low educated employees by means of short articles in press or magazines, but, as was shown by the above mentioned quality study, which would be present in such places where these people look for other things such as entertainment or information (e.g. about a TV programme), and thus, at the same time they could read about health.

Another important problem exists in the situation when we want to broaden their knowledge or skills to a bigger extent than it is enabled by the radio and TV programmes or leaflets etc., so – when trainings are necessary (the conducted diagnosis proved that it happens as the knowledge of phenomena and terms often used in messages connected with health education is not satisfactory). Then, a range of

negative associations is evoked for about every second employee who graduated from primary or basic vocational school. They do not want to "sit at a school desk" once again (only every third person agrees for participation in a lecture, a workshop), and are afraid that things said during such trainings would be difficult to understand and the conveyed knowledge would not be easy to implement in everyday life. They are also worried about a necessity to fill in a test checking their knowledge or to speak in front of a group of people. Moreover, they are ready for not more than two hours of such an effort and preferably during their work time; but still the majority think that they do not have time for such trainings at all. Three fourth of this community expect that these trainings would be free of charge and would eagerly accept money for taking part in them. They would like to have a possibility of taking part during the training in a treatment for health or checking their health, and two third want to receive gifts. A half would not refuse snacks served during the training and a lottery with small gifts. All of this means great costs for the organizers, but also logistic difficulties. Fortunately, two third of this community would be encouraged by a possibility of asking questions and getting answers to them, or of practicing some healthy behaviours under expert's supervision.

The reported status quo indicates that health education and health promotion in case of low educated employees in Poland really have a "Gordian knot" to cut. It is easily seen that such an addressee requires activities which are particularly thought over. It seems that commercial media (TV, radio) which are mass audience- oriented will rather not fulfil the role of a channel which would complete their lack of knowledge or change their unfavourable health beliefs. Some possibilities can be seen in the press (especially daily) but only if readers' eyes are caught by articles devoted to health when they read articles/information on other topics. Therefore, they have to fulfil some excessive criteria: draw attention (by topic choice), be very short and easy to understand. It means that a very limited, as for the content, offer can reach an addressee via this way. Similar challenges and limitations refer to posters and leaflets.

The conducted diagnosis shows first of all that low educated employees feel the need of an individual contact with health specialists, most often with a physician, that they would like to have a possibility of asking questions and getting answers to them, and even learning some new skills under their supervision. This is probably the most accepted way of learning how to take care of health by this type of people. Obviously, this is not good information for organizers of health education and health promotion projects because it is both a time and cost consuming method. However, this way of reaching low educated employees cannot be rejected. It seems that this method should be taken into account in educational campaigns addressed to working population, of course considering the problem of low level of signing up (noticed for example in screening tests conducted within them), which means once again a very well thought over strategy promoting this form of influence. It appears that this problem and other identified challenges may be solved by the organization of this kind of individual consultations by means of work establishments employing low educated people. The problem of participation could be effectively solved by adding well conducted health consultations to obligatory initial medical examinations, check-ups or follow-up care. Assuming that they would leave a good impression and that the next ones, specially organized meetings of this type, would take place during working time, and would be accompanied by financed by an employer additional (i.e. not resulting from work posts characteristics) check-ups or treatments for health, the probability of success of this kind of projects increases. Therefore, it seems that health promotion programmes at a company would be a good way of meeting the challenges arising from the characteristic of way of behaving and thinking about health of low educated employees. These programmes would have to take into account individually conducted health education, an offer of additional preventive screening, or treatment for health (e.g. physiotherapeutic), some forms of co-financing recreation/leisure, activities aiming at increasing the aesthetic and comfort in the workplace, and creating less stressful working conditions etc., depending on the capabilities of a given company.

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12. The low educated employees towards health — a Slovenian example

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1. Foundations of vulnerability – health, education and financial status of LEEs

1.1. The educational structure of the economically active population

National statistics on the educational structure of the economically active population for 2008 show that 14.8% of employees have secondary education, and 26.8% have completed lower secondary or vocational school (Statistical Office of the Republic of Slovenia, 2008 a). An overview of the educational structure of employees by industry for 2007 shows employees with education below secondary level (semi-skilled or unskilled workers) dominate in the following sectors: construction (37.0%), followed by agriculture, hunting and forestry (30.6%), manufacturing (29.4%) and catering 24.0% (Statistical Office of the Republic of Slovenia, 2008 b).

The educational structure of employees in the last two decades improves with recruitment of a more educated workforce and the outflow of less educated workers, due to demands for economic restructuring (Ivančič et al 2007).

41.6% employees (figures for 2007) in Slovenia do not meet technical or general secondary education levels, "which is a condition for continuing education at tertiary level and an indicator of the literacy achievements necessary to succeed in modern information societies" (Statistical Office of the Republic of Slovenia, 2008 a, Ivančič et al 2007).

1.2. Financial status

According to foreign researches, about half of all workers with low basic skills have low-paying jobs. Achieving a moderate or high level of functional literacy is critically important in escaping low wages and low incomes. Of the 65 percent of workers scoring at level 3 (the middle category) or higher on the National Adult Literacy Survey, only 3.5 percent of men and 6.5% of women earned low wages and lived in families with incomes below 150 percent of the federal poverty level. On the other hand, low functional literacy substantially increases the chances of working in a low-wage job. For example, the incidence of low wages for women was 30 percentage points higher among those scoring at the lowest literacy level relative to those women scoring in the middle (Lerman, Skidmore, 1999).

According to the results of the national study there are no significant differences among the education groups regarding the assessment of their own health. More than 70% of respondents stated that they are in good health.

The trend could show that the respondents who have primary education are more likely to have serious limitations, difficulties or chronic diseases than other respondents.

There are significant statistical differences among the education groups. The results show that respondents with lower education status asses their level of education based on their knowledge and skills as being higher than officially achieved.

In the terms of engagement in self-development activities there are significant statistical differences between LEEs and higher educated respondents in all the situations that they were asked about (developed knowledge of foreign language, developed skills of using a computer and the internet, improved occupational skills or hobbies) except 'reading the everyday papers and magazines'. The higher the education, the more people develop knowledge of foreign languages, computer and internet usage, and the more they take part in courses or reading professional magazines.

70% of respondents answered that they have an average financial situation but there are significant statistical differences among the education groups. Almost half of respondents with primary education only stated that they have to live rather modestly, while among the tertiary level of education there were only 10% of respondents replied similarly.

Conclusions and recommendations

In general, more than 70% of respondents stated that they are in a good health. On the other hand, LEEs seem to be more vulnerable to health problems than more educated workers – they tend to have more chronic diseases and they also have a worse financial situation compared to higher educated respondents.

2. Knowledge and literacy concerning ways of taking care of health – subjective and objective aspects

2.1. Literacy rate of the economically active population

According to OECD's international literacy survey, literacy is defined as "the ability to understand and use printed information in daily activities at home, at work in the community - to achieve the objective and develop their skills and potential". The achievements of literacy are explained with four key factors: level of education, education of parents, age, and employment status. In the field of literacy among the twenty participating countries Slovenia was placed almost on the bottom of the ladder - worse results were reached only by Poland, Portugal and Chile (Ivančič et al 2007).

Better performance in literacy is an important link with better educational attainment. The factor separating employees with a poor performance from those with a better one is four-years of secondary education (Ivančič et al 2007).

The World Health Organization (WHO) defines health literacy as representing "The cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health." It adds: "By improving people's access to health information and their capacity to use it effectively, health literacy is critical to empowerment." The NHC adds "readiness to receive health information" along with reading and educational levels and cultural background in its description of health literacy (Kempner, 2003).

Low health literacy affects a person's ability to make informed decisions about his or her health and can result in the ineffective treatment and rehabilitation of a patient's condition. Poor levels of health literacy exist in all countries. A 1995 US study found that one third of English-speaking hospital patients could not read or understand basic health materials. The elderly and those in poor overall health had the worst health literacy (Health Literacy, 2003).

It has long been known that reading ability has an impact on health. Due to the low level of general literacy of the workers who have less than four-years of secondary education we can conclude that they have poor access to health information and poor capacity to use it effectively.

2.2. Self-assessment concerning ways of taking care of health

The results of the national study show that almost 70% of respondents assess their health knowledge as 'very good' or 'good'. However, there are big and statistically significant differences among the education groups. More than 40% of respondents with primary education assess their knowledge as 'rather weak' or 'insufficient', while there are only 10% of such respondents in the tertiary education group.

Around 56% of respondents think that it would be good to know more about health care and around 30% think that they know enough. There are some differences among the groups – the respondents with basic vocational education believe that 'what they know about how to take care of their health is enough' – the largest proportion compared to all the other education groups.

2.3. Health literacy in LEEs

There are significant statistical differences among education groups regarding health literacy. Respondents with post secondary or tertiary education are more health literate when taking into account the following topics: passive smoking, illness prevention, healthy lifestyle and BMI. There are no differences among the cholesterol and food pyramid topics.

More than one third of respondents don't know whether LDL cholesterol is good for their health or not.

Almost all respondents are aware of the beneficial influences of moderate physical exercise.

There are significant statistical differences among education groups. Almost three quarters of the tertiary education group think that poly-unsaturated fatty acids are good for their health, while 38% of respondents with primary education didn't know the answer to this question.

Around 90% of respondents among tertiary and secondary or post-secondary education group think that fibres are good for their health, among the primary and basic vocational education groups there are 67% and 77% of such respondents respectively.

There are significant statistical differences among education groups. Around 84% of the respondents among the tertiary education group think that antioxidants are good for their health, among the primary education group there are only 38% of such respondents.

Almost half of respondents do not know whether free radicals are good or bad for their health.

2.4. Perceived needs in citizens' health education

There are no significant statistical differences among perceived needs for health education. Coping with stress was the most often chosen answer, followed by taking regular exercise and taking part in regular check-ups for early diagnosis of diseases.

Conclusions and recommendations

Almost 70% of respondents asses their health knowledge as 'good' or 'very good'. There are big differences among the education groups – LEEs are aware that their knowledge is 'weak' or 'insufficient' so it would be appropriate to address them in the health promotion programmes since they are motivated.

Basic tested heath knowledge and literacy seems good but again there are differences among the examined groups – less educated respondents have less knowledge and they would probably benefit more from health promotion programmes. Among perceived needs for health education, coping with stress was the most often chosen answer.

According to relevant sources, in terms of interventions, which focus on health outcomes, the strongest support for the effectiveness of worksite health promotion seems to exist for effects of stress management (Maes, van der Doef, 2004). The suggestion is to organize health education programmes focusing on stress management.

3. LEEs' health behaviours

There is a well-established link between lower socio-economic status and higher heart disease risk among men. A number of causes have been proposed for the connection, including that less educated, poorer people may have less healthy lifestyles or less access to medical care, or that they may face more

on-the-job stress. Less educated women face a greater risk of developing heart disease, research from Sweden shows. This is largely because women with fewer years of schooling are more likely to have heart disease risk factors such as cigarette smoking, a sedentary lifestyle, high body mass index, high blood pressure and diabetes, researchers report (Kuper et al 2006). The researchers from Sweden analysed data from a study of 49,259 women who ranged in age from 30 to 50 at the study's outset in 1991-1992 and had been followed for an average of 11 years. Women with the least education were more than three times as likely as those with the most years of schooling to have a heart attack during the follow-up period, the researchers found. Nearly all of this relationship could be attributed to the higher prevalence of heart disease risk factors such as smoking and overweight among the less educated women (Kuper et al 2006, Less educated women face greater heart risks, 2006).

Swedish researcher R. Dahlberg studied health and working conditions among low-educated women. His study clearly indicates that women with a low level of education are more susceptible to physical disorders than men due partly to the segregated labour market and also due to the fact that industrial workplaces are often designed with the structure of a male body in mind. However, even amongst those who are highly educated, women were still seen to be the ones with poorer health (Low-educated women experience greater health risks than their male counterparts).

Most of the respondents of the national study (78%) try to drink only small portions of alcohol. Among other positive health behaviour there are around half or slightly more of respondents who cut down sugar, take exercises and avoid fat, and who work every day in the least harmful way for their health.

Conclusions and recommendations

Basic health education should include at least topics about stress management, physical activity, and emphasizing the importance of regular check-ups for early diagnosis of diseases. It would be good to address also the topic of taking care of health at work, since this seems to be highly underestimated – only 8% of all respondents picked out this topic among their favourite 3 topics.

4. Specificity of LEEs' beliefs concerning health behaviours

The results of the national study show that there are very significant differences among the education groups regarding the impact of respondents' behaviours on their health. Around one third of respondents with primary or basic vocational education think that they are persons who often think about how to lead a healthier life. In the secondary or tertiary education groups there are half or more of such respondents.

There are no differences among the participants of the study regarding the persistence in maintaining health behaviours. Around ⅔ of the respondents state that they are 'definitely' or 'rather' persistent in maintaining health behaviours. The easiest health behaviours for the respondents to adopt are drinking small portions of alcohol and having check-ups done systematically. Most of the health behaviours are met with relatives' understanding. The least easy health behaviour for the respondents would be taking exercise on a daily basis and working every day in the least harmful way for their health. Most of the potential health behaviours are assessed as good for their health, especially taking part in regular, daily exercise.

There are differences among the education groups regarding the reaction of co-workers when somebody is trying to quit or cut down smoking: only one third of co-workers of the primary education group appreciate it, while there are more than 50% of such cases among the tertiary and secondary education groups.

There are differences among the education groups regarding the reaction of co-workers when somebody is trying to lose weight: less than one third of co-workers of the primary education group appreciate it, while there are 52% and 42% of such cases among the secondary and the tertiary education groups.

There are no differences among the education groups regarding the reaction of co-workers when somebody is trying to cut down or eliminate sweets and sugar.

There are no differences among the education groups regarding the reaction of co-workers when somebody is trying to limit fats in diet, not to eat greasy food. One third of co-workers appreciate it, one third do not pay attention to such things.

There are differences among the education groups regarding the reaction of co-workers when somebody is trying to run, swim or take exercise: in 45% of cases co-workers appreciate and praise it.

There are no differences among the education groups regarding the reaction of co-workers when somebody is trying to have check-ups done regularly: in 31% of cases co-workers do not pay attention to such things, in 34% in general co-workers praise such behaviour.

There are no differences among the education groups regarding the reaction of co-workers when somebody takes vitamins and microelements: in 40% of cases co-workers do not pay attention to such things.

There are no significant differences among the education groups regarding the reaction of co-workers when somebody attends health training of his/her own accord: in 34% of cases co-workers do not pay attention to such things, one quarter of co-workers appreciate and praise such behaviour.

There are no significant differences among the education groups regarding the reaction of co-workers when somebody is trying to change the way he/she does his/her job to make it safer or more healthy. In one third of such cases, co-workers appreciate and praise such behaviour.

Conclusions and recommendations

In general, cutting down on alcohol is currently the only widely accepted and practiced positive health behaviour so other topics (such as sugar avoidance, less fatty diet, regular exercise) should be taken into account when preparing the curriculum of a new health programme. The motivating factor among respondents who do not lead healthy lifestyles seems positive – the beneficial factors of a healthy lifestyle are recognized also among them. Another positive thing is that co-workers in general are not considered negative influences for changing a lifestyle towards a healthier one (very few respondents stated that co-workers would make fun of healthy lifestyle changes).

5. LEEs' behaviours and beliefs in the field of occupational health

The results of the national study show that there are significant differences among the education groups. The respondents among primary and basic vocational level of education estimate that their work conditions are harmful for their health to a greater extent than the respondents with higher education.

There are no significant differences among the education groups regarding the tendency to ignore their health while doing their job. More than 50% of respondents in general tend to ignore their health while they do their job.

There are no significant differences among the education groups regarding the tendency to find out how to work to avoid ailments, a disease or an accident. More than ⅔ of respondents in general try to get to know how to work to avoid ailments or a disease.

There are significant differences among the education groups in their belief that it is worth following (at work only) those health and safety rules the breaking of which would result in a penalty. Respondents with primary and basic vocational education tend to think that following only those health and safety rules the breaking of which would result in a penalty are worth observing in a greater extent than more educated respondents.

There are no significant differences among the education groups regarding the expectations for their own health from a company taking care of its employees' health. In general, the following expectations are the most obvious: 'taking care of the health and safety at the worksite much more than it is required by law' and 'possibility of medical check-ups and treatment by various specialists financed by an employer'.

Conclusions and recommendations

Jobs and conditions at work have negative influences on the health of the respondents; this is especially true for the respondents with lower education since they estimate that their work conditions are harmful for their health. If we combine this conclusion with the finding that more than 50 % of respondents tend to ignore their health while they do their job, it is obvious that awareness of healthy work

conditions is still not high enough. Since the wish that 'taking care of workers health more than just required by law' is strong, it would be good to influence or to educate the employers also.

6. Attitudes towards health education and its preferred forms

According to the international research on quality of life with 7 participating countries: Slovenia, Germany, Austria, Hungary, Sweden, Switzerland and Spain, the respondents ranked health in the first place of importance in life (Tos et al 2004).

6.1. Opinions on various health education tools

There are no significant differences among the education groups regarding the suitability of health lectures. They suit around 55% of all respondents.

There are significant differences among the education groups regarding taking part in a practical workshop. More respondents with tertiary and secondary or post-secondary education think that this is suitable for them.

There are no significant differences among the education groups regarding professional face-to-face advice. It suits around ⅔ of the respondents.

There are significant differences among the education groups regarding reading leaflets, pamphlets, looking at posters concerning ways of taking care of health. It suits around 63 % of all respondents. It suits more respondents with higher education.

There are significant differences among the education groups regarding the degree to which taking part in fetes promoting healthy lifestyles suits respondents. It suits around 64% of all the respondents and it suits more the respondents with secondary or tertiary education.

There are significant differences among the education groups regarding the degree to which taking part in fetes promoting healthy lifestyles suits respondents. It suits around 64% of all respondents and it suits more respondents with secondary or tertiary education.

There are significant differences among the education groups regarding the degree to which looking on the Internet for information interesting/important for health suits respondents. It suits more respondents with secondary or tertiary education.

There are no significant differences among the education groups regarding the degree to which reading articles and information concerning health in papers or magazines suits respondents. In general it suits ¾ of respondents.

There are no significant differences among the education groups regarding the degree of reading professional self-help books concerning health suits the respondents. In general it suits half of the respondents.

There are significant differences among the education groups regarding the degree of watching TV, listening to radio broadcasts devoted to health suits respondents. In general it suits ¾ of respondents; it suits more respondents with lower education.

6.2. Preferences concerning health educators

There are no significant differences among the preferred health educators' background. Most of the respondents would like to hear a health specialist, (i.e. a psychologist, a nutritionist or a physiotherapist) or someone who successfully coped with a problem and wants to share such an experience with others.

6.3. Factors increasing motivation to take advantage of heath education offer

There are no significant differences regarding the snacks served during the training as an incentive that can encourage respondents to take part in a training concerning health. It would not encourage the respondents to take part in a training session concerning health.

There are no significant differences regarding treatment for health, beauty i.e. massage as an incentive that can encourage respondents to take part in a training session concerning health. It would encourage more than 60% of the respondents in general.

There are no significant differences regarding a health-check as an incentive that can encourage respondents to take part in a training session concerning health. It would encourage more than 70% of the respondents in general.

There are no significant differences regarding practicing something with expert's assistance, under his/her supervision as an incentive that can encourage respondents to take part in a training session concerning health. It would encourage more than 70% of the respondents in general.

There are no significant differences regarding pamphlets/leaflets on taking care of people's health as an incentive that can encourage respondents to take part in a training session concerning health. It would encourage 45% of the respondents in general.

There are no significant differences regarding a lottery with small gifts for training attendees as an incentive that can encourage respondents to take part in a training session concerning health. It would not encourage more than 50% of the respondents in general.

There are no significant differences among the respondents regarding a small gift given to all training session participants as an incentive that can encourage respondents to take part in a training session concerning health. It would not encourage more than 45% of the respondents in general and it would encourage 47% of respondents.

There are no significant differences among the respondents regarding free of charge access as something that can encourage respondents to take part in a training session concerning health. It would encourage more than 75% of the respondents in general.

There are no significant differences among the respondents regarding the possibility of getting answers for training attendees' questions, resolving their doubts by a trainer. It would encourage more than 79% of the respondents in general.

There are no significant differences among the respondents regarding the possibility of appearing in mass media broadcasts devoted to the training. It would not encourage more than 72% of the respondents in general.

There are no significant differences among the respondents regarding the possibility of exchanging opinions, sharing experience with other training participants. It would encourage more than 65% of the respondents in general.

There are no significant differences regarding the training organized by a company during respondents' work time. It would encourage more than 65% of the respondents in general.

There are no significant differences regarding being paid for taking part in the training sessions as an incentive. It would not encourage more than 45% of the respondents in general.

There are no significant differences regarding a diploma, a certificate of attending the training sessions as an incentive. It would encourage more than 44% of the respondents in general.

6.4. Factors decreasing interest in health education

There are significant differences among the education groups. The factors that would discourage respondents' participation the most are: necessity to pay, necessity to speak in front of a group, duration over two hours and a test at the end of a course.

Taking part in health education would in general not humiliate the respondents in front of friends, more than 20% of all the respondents said that they are not interested in such training sessions, more than 40% said that they have not enough time for such training sessions and almost as much that they are afraid that the organizers would want to sell something. There are significant differences among education groups in statements: 'I know best how to take care of my health without such trainings' and 'such trainings only mess with one's head, trainers say one thing than a different one'.

Conclusions and recommendations

When considering various forms of health education the most preferred options are reading articles and information in papers or magazines and watching TV or listening to radio broadcasts. Since these activities are passive only and do not require much of the participant's activity it would be good to influence the health knowledge and awareness in meetings and workshops also, where the respondents would actively participate in the discussion or course. According to respondents' answers these kinds of

workshops should be free of charge and should answer all the questions that participants would have. Other important factors when considering workshops are: not forcing participants to talk in front of others and time efficiency.

7. Summary

According to the national study more than 70% of all respondents stated that they are in good health. On the other hand, LEEs seem to be more vulnerable to health problems than more educated workers – they tend to have more chronic diseases and they also have a worse financial situation compared to higher educated respondents.

Almost 70% of all the respondents asses their health knowledge as 'good' or 'very good'. There are big differences among the education groups – LEEs are aware that their knowledge is 'weak' or 'insufficient' so it would be appropriate to address them in the health promotion programmess since they are motivated. Basic tested health knowledge and literacy seems good but again there are differences among the examined groups – less educated respondents have less knowledge and they would probably benefit more from health programmes. Among perceived needs for health education, coping with stress was the most often chosen answer.

Basic health education should include at least topics about stress management, physical activity and emphasizing the importance of regular check-ups for early diagnosis of diseases. It would also be good to address the topic of taking care of health at work, since this seems to be highly underestimated – only 8% of all respondents picked up this topic among their favourite 3 topics.

In general, cutting down on alcohol is currently the only widely accepted and practiced positive health behaviour, so other topics (such as sugar avoidance, a less fatty diet, regular exercise) should be taken into account when preparing the curriculum of a new health programme. The respondents who do not lead healthy lifestyles recognize the beneficial factors of a healthy lifestyle. Another positive thing is that co-workers in general are not negative influencers in changing a lifestyle towards a healthier one (very few respondents stated that co-workers would make fun of healthy lifestyle changes).

As far as the field of occupational health is concerned LEEs' believe that their job and conditions at work have negative influences on their health. This is especially true for the respondents with lower education since they estimate that their work conditions are harmful to their health. If we combine this conclusion with the finding that more than 50% of the respondents tend to ignore their health while they do their job, it is obvious that awareness of healthy work conditions is still not high enough. Since the wish that 'taking care of workers health more than just required by law' is strong, it would be good to influence or to educate the employers also.

When considering the various forms of health education LEEs' the most preferred option is watching TV or listening to radio broadcasts. In second place is reading articles and information in papers or magazines. Since these two activities are passive only and do not require much of the participants' activity it would be good to influence health knowledge and awareness at meetings or workshops also, where the respondents would actively participate in the discussion or course. According to the answers these kinds of workshops should be free of charge and should answer all the questions that participants would have. Other important factors when considering workshops are: not forcing participants to talk in front of others and time efficiency.

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Nofer Institute of Occupational Medicine

The Nofer Institute of Occupational Medicine (NIOM), Lodz, Poland, was founded in 1954. It is a complex research and development centre with activities covering not only the field broadly-understood as occupational medicine (inter alia diagnostics, prevention and treatment of occupational diseases) but also a wider range of activities (inter alia working population politics or health promotion).

In 1996 the National Centre for Workplace Health Promotion was established within NIOM. Its main areas of activities are: research and trainings in the field of workplace health promotion as well as implementation of such activities in enterprises. Since its beginning the Centre has been coordinating the Polish Network for Workplace Health Promotion (PNWHP) focusing stakeholders active in this field as well as disseminating ideas and professional knowledge connected with health promotion among the working population. In 2001 the PNWHP was incorporated into the structures of the European Network for Workplace Health Promotion and the Polish Centre became its National Contact Office. In 2009 World Health Organisation awarded the Centre with the prize founded by the State of Kuwait in recognition of outstanding contribution to research in health promotion. It was handed during the 62nd session of the World Health Assembly.

The "Instituto Valenciano de Atención a los Discapacitados y Acción Social" (Valencian Institute for Disabled People and Social Action) is a public body, belonging to Social Welfare Department, working in the whole Region of Valencia.

In IVADIS, we all work together to achieve that people with disabilities or social problems have the same opportunities as other people. We provide them with the necessary support for their full development.

It is formed by Disabled People who with their example, show us how to do well in our jobs and lives in general; for more than 800 workers who provide knowledge and give support our beneficiaries; for volunteers, who spend part of their leisure time and spirit to attend the needs of disabled people during leisure time activities; for families that help us to improve our work and give support day after day; and for companies that help us to achieve the objectives of our projects.

univerzitetni klinični center ljubljana
University Medical Centre Ljubljana

The University Medical Centre Ljubljana (UMCL) is a public institute with more than 7.000 employees. Its basic activities include secondary and tertiary healthcare, education, and research.

The Clinical Institute of Occupational, Traffic and Sports Medicine (CIOTSM) is an independent unit within the UMCL. It primarily seeks to improve employee health. The CIOTSM mainly carries out preventive work in employee and general health, and it focuses on constantly developing occupational health policy and promoting health at work. It strives to increase people-friendly conditions at work and adapt workplaces to suit employees. The CIOTSM is responsible for research projects and training programmes, and undergraduate and graduate education in various fields concerning workplace health.

Rīgas Stradiņa Universitāte

Riga Stradins University (RSU) is a university that comprises faculties, institutes, clinics, research and study laboratories performing educational, methodological and research activities in area of human health, sociology and economics.

Institute of Occupational Safety and Environmental Health (IOSEH) is an academic, scientific and medical structural unit of RSU that have following functions: training, information activities, scientific research and expert consulting services in the field of health protection and safety at work. IOSEH provides training both for undergraduates and postgraduates as well as for wade range of other professionals. IOSEH is also actively involved in support to policy makers in the field of occupational health and safety through participation in expert groups and training for experts. For many years IOSEH has also been actively involved in international projects both in the area of research and training.