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Quality of Life and Health State of Long – Term Unemployed in Older Production Age

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Abstract The aim of the study was to evaluate the changes in the subjective quality of life (QoL) and health state of unemployed people at the age of 45 and older in the city environment. The study also aimed at evaluating some social and demographic factors on the quality of life and health of the unemployed. A group of 454 unemployed people aged 45 and older, registered in labour offices in the city of Łódź, Poland were included in the study. Two groups were formed: short-term and long-term unemployed. QoL was measured with the WHOQOL-Bref questionnaire. The main problems formulated in the study were: Does QoL and health state decrease during the period of unemployment and in what aspects? What factors can modify the changes of QoL of the unemployed? The findings of the analysis indicate that unemployment entails many negative health consequences and the long-term stress connected with being out of work leads to the decline in the quality of life and worsening of mental state. The multidimensional effects of unemployment depend not only on the economic situation of the particular household, but also on perceived health status, personal relationships and the sense of ability to work.

Keywords Health related quality of life · Health situation · Unemployment · Older production age

Introduction

Demographic data shows that growing process of population ageing will cause increased participation of people aged over 45 in the labour force. Older adults are becoming increasingly important labour market reserves. It is important to maintain a good state of health and quality of life within that group and to counteract possible

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negative effects of prolonged professional life, including periods of unemployment and long – term unemployment, which is most health threatening.

The phenomenon of unemployment remains the focus of attention for many psychologists, economists, sociologists as well as experts in public health, as this phenomenon results in various negative effects. Work is not only a source of financial income; it plays many other roles, such as the maintenance and control of social contacts as well as serving to organize time. It develops some skills and provides certain rights. Initially, lack of work inevitably leads to worsening of the financial situation of the household and prolonged unemployment – even poverty. Financial problems, stress and loss of social identity might result in various negative social and health consequences (Jonge and Schaufeli 1998; Scanlan and Beltran 2007).

The term “quality of life” is multidimensional and depends on many factors, both subjective and objective. The quality of life (QL) reflects the level of satisfaction regarding health, material and spiritual aspects. QL comprises experiences of success and failure throughout life. It depends on individual’s chosen life goals and the sense of their achievement (Glatzer 2006; McGregor et al. 2009). According to the WHO, the term is identified with the individual’s position in life, in the context of the environment in which he/she lives, the system of values he/she believes in and his/her objectives, expectations, standards and fears (The WHOQOL group 1995). The quality of life has become a subject of studies of many scientific fields. The Medline database, one of the most comprehensive in the world, has gathered professional texts for more than 40 years. While in 1973, the entry “quality of life” displayed only 5 publications (Kulczycka et al. 2007), nowadays there are as many as 150,000. Although the problem is quite common and widely discussed, not many works exist on the quality of life and the state of health of unemployed people at the age of 45 or older.

From the demographic point of view, people above the age of 45 are said to be at immobile production age. This age is associated with a specific status on the labour market. In western civilization, youth is one of the most appreciated qualities. It is associated with vitality, creativity, and willingness to work. Old age is in turn associated with many negative features such as difficulty to adapt to society and culture, inability to keep up with technological changes, and remaining far from reality. People at the age of 45, although not old yet, are somehow perceived as old. They have stopped being young (Straś-Romanowska and Frąckowiak 2008). In the opinion of some employers, such people are potentially worse employees than young people. There are huge differences in the work potential of that group in terms of psychophysical and environmental aspects. Some employees are skilled, committed to work and efficient; some others – are hardly willing to work and ineffective, mentally awaiting professional deactivation (pension, allowance). In many cases a psychological barrier deprives them of their self-esteem and prevents them from gaining new knowledge and adapting to changing conditions. People at the older production age are more susceptible to dismissal. If they lose their work, it is more difficult for them to get a new job (Urbaniak 2007).

Unemployment may cause ill health, especially poor mental state, a higher death rate, greater drug use and use of medical services than found among the employed (Claussen et al. 1993; Mathers and Schofield 1998; Przewoźniak 2000; Novo et al. 2001; Nylén et al. 2001; Hintikka et al. 2009). Studies conducted so far have not

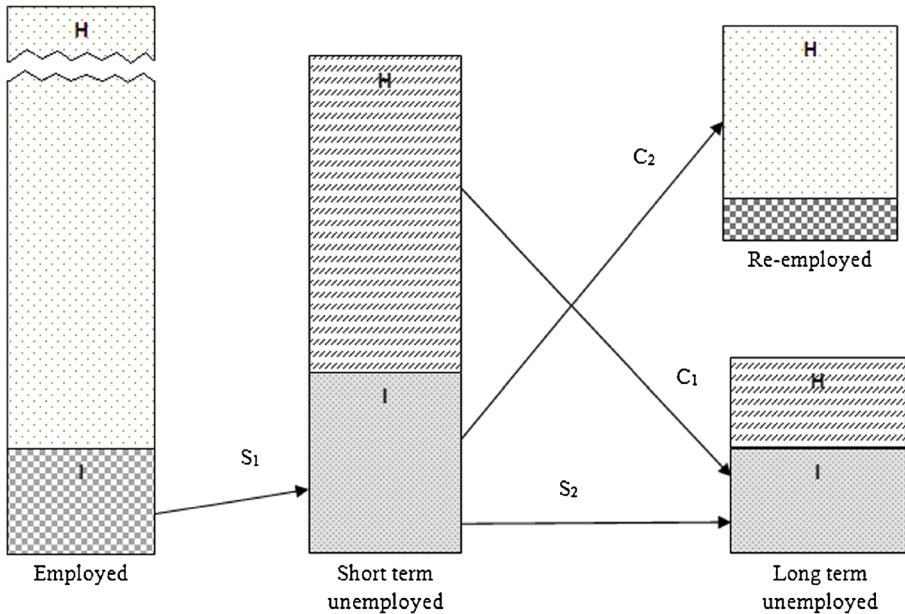
clearly explained the relationship between unemployment and health, and factors influencing the effects of unemployment. Research conducted over many years has led to alternative findings that indicate that the relation between unemployment and health is much more complicated than expected (e.g. the model proposed by Claussen, Bjørndal and Hjort; Graph 1). On the one hand, one body of evidence indicates that the health effects of unemployment are caused by stress and income reduction, which may lead to adverse behavior and poor health. On the other hand, there is evidence that persons with bad health, underestimated self-esteem and predisposition for depression are more vulnerable to job loss and may become unemployed by the selection process (Kalbarczyk 1999; Worach-Kardas 1996). Some research has even suggested that bad health and socio-economic factors existing for a long time before unemployment may increase the risk of job loss. Such disadvantageous factors include low parental socio – economic status, known as poverty “inheritance”; social inadequacy in school-age which is manifested in increased nervousness, depressive tendencies, fear of lack of parental acceptance; or short stature in childhood (Montgomery et al. 1996; Przewoźniak 2000). Additionally, both the nature and degree of the influence of unemployment on health may be varied. Unemployed men have a poorer state of health than unemployed women, receiving unemployment benefit or other forms of social help, as well as having a high level of education, may favourably affect health. Although marriage seems to have a positive influence on the effects of unemployment on health in women, in unemployed men it can even intensify the bad effects (Artazcoz et al. 2004; Eliason and Storrie 2009). The precise influence of unemployment on health depends on the social role and the individual perception of one’s life position. A fundamental question is still open: whether unemployment leads to bad health or if simply lack of health causes unemployment. It seems that the casual relationship between state of health and unemployment is bidirectional: bad health may cause unemployment, because the employer needs a healthy and efficient worker, and any disabilities in mental or physical health may conduct to job loss. At the same time, unemployment, especially long-lasting unemployment, may contribute to the generation of new health problems and the aggravation of existing ones. Though the implications of unemployment are mostly financial, it is important to consider other associated aspects of existence, especially state of health and health- related quality of life.

The Aims

The aim of the study was to evaluate the impact of the period of unemployment on the quality of life and state of health in unemployed people at the age of 45 and older, as well as to evaluate social and demographic factors that may have influence on the quality of life and state of health of the unemployed.

The study also assessed the following aspects:

- factors conditioning the quality of life of the unemployed,
- the influence of the period of unemployment and social and economic factors on the person’s self-evaluation of his/her health and chronic health disorders,



Graph 1 A model of health related selection to unemployment and of unemployment as a cause of ill health. H – health; I – ill; S_1 – selection to job loss; S_2 – selection to continuous unemployment; C_1 – health unemployed become ill as a consequence of long term unemployment, C_2 – sick unemployed who improve after re-employment. Source: Claussen et al. (1993). Health and re-employment in a two year follow up of long term unemployed. *Journal of Epidemiology & Community Health*, 47, 15

- the general mental state of the unemployed,
- the influence of the period of unemployment and social and economic factors on the person's mental state.

Materials and Methods

The study was conducted during the years 2009 and 2010. A group of 454 unemployed people at the age of 45 and older, were included in the study. Both the main group and the reference group were recruited from unemployed persons living in the city of Łódź, a large city located in central Poland. The main group consisted of people aged 45 and older who had remained unemployed for longer than 12 months, the so-called long-term unemployed (in total=230), registered in labour offices in the city of Łódź. Every third unemployed person aged of 45 and older, registered in a labour office, was randomly studied. A group of 224 people affected by short-term unemployment (i.e. those being out of work for up to 6 months, adjusted to the main group in terms of the sex and age) was formed to allow a comparative analysis. The demographic characteristics of the examined groups, age and sex, was similar to the distribution of those of the general population – both in the city and the voivodeship.

The study was conducted with the use of a diagnostic survey and the application of a questionnaire interview technique. Three research methods were used in order to carry out the study. The authors' questionnaire addressed social and demographic

features (marital status, education, number of children supported) as well as the period of unemployment, the financial situation of the household and the occurrence of chronic diseases in the period of unemployment. The WHOQOL-BREF questionnaire was used to evaluate the general state of health and the quality of life in general and in 4 dimensions: physical and psychological health, social relationships, and the environment of the respondent. The QL (quality of life) dimensions consists of 24 sub-dimensions, measuring individual approach to particular aspects of person's life. The General Health Questionnaire (GHQ – 12) was used to evaluate the physical and mental state of the studied subjects. According to the questionnaire, those who received more than 2 points were considered mentally disturbed (Makowska and Merez 2001).

In order to evaluate the gathered data, descriptive methods and inductive statistics were used. The chi-square test for independence was applied to compare the frequencies of occurrence of the particular features in the analyzed groups. The intensity of the dependence was evaluated with the use of the Pearson correlation coefficient. When the distributions differed significantly from a normal distribution, the Mann–Whitney *U* Test was used to compare the results of the two groups. To compare many groups, the Kruskal–Wallis Test was applied. The probability of error was $p < 0.05$.

While conducting the study it was assumed that many demographic, social, economic and health variables will affect the evaluation of the quality of life, self-evaluation of the state of health and the mental state of the unemployed.

Hence, both single- and multi-factor logistic regression analysis was applied. The analysis made it possible to calculate the odds ratio (OR) of the occurrence of the event presented by the dichotomic variable (the evaluation of the quality of life, self-evaluation of the state of health and the occurrence of mental disturbances) depending on various independent variables. The confidence interval was 95 % and the significance level - $p < 0.05$.

In the single-factor logistic regression model, the authors used 22 variables analyzed with the authors' questionnaire as well as some questions taken from the WHOQOL-Bref questionnaire. The potential influence of demographic variables was analyzed with the following criteria: sex, age, marital status and education. An influence of social aspects was analyzed by considering the following factors: the size of the household, the presence of children or unemployed members of the household, satisfaction with personal relationships and support. The economic variable reflected self-evaluation of the economic state of the household. The authors evaluated also the influence of variables referring to activity and professional activation, multiple registration in a labour office, satisfaction with ability to work, attempts to find paid employment, the type of work: permanent, temporary, participation in courses and professional training. An influence of variables referring to health and health care was analyzed with the following factors: self-evaluation of health, experiencing negative feelings (sadness, depression, melancholy), diagnosis or exacerbation of chronic diseases in the period of unemployment, satisfaction with access to health care. Certain behaviours and lifestyle, such as being a smoker or non-smoker and doing regular physical exercise, also contributed to self-rated health. The application of the single-factor analysis allowed the elimination all variables which were statistically insignificant. The multi-factor logistic regression analysis facilitated an analysis of how much the variables contribute to an overall positive quality of life, a negative self-evaluation of health and mental disturbances. The STATISTICA 8 package was used for statistical purposes.

Results

The Description of the Group who Took Part the Experiment

Two hundred and thirty long-term unemployed subjects (the main group) and 224 short-term unemployed subjects (the comparative group) were included in the study. Having applied the research methodology, the groups were made homogenous in terms of sex and age. In both groups, the proportions of women and men were similar: 50.4 % vs. 49.6 %. The average age of long-term unemployed subjects was 52.7 ± 4.7 years and short-term unemployed 51.8 ± 5.1 years. (Table 1).

The Perceived Quality of Life in the Studied Persons

The results confirm the presence of a statistically significant, but not particularly strong, relationship between the period of unemployment and global satisfaction with the quality of life ($p < 0.001$; $C = 0.20$). The percentage of positive opinions was significantly lower in the group of the long-term unemployed subjects than in the group of the short-term unemployed subjects (23.5 % vs. 42.4 %). Moreover, it was more common for the subjects from

Table 1 Social and demographic characteristic of the studied groups

Characteristic	Group			
	Long-term unemployed		Short-term unemployed	
	N=230	%	N=224	%
Sex:				
Men	114	49.6	111	49.6
Women	116	50.4	113	50.4
Age [in years]	52,7±4,7		51,8±5,1	
Marital status:				
Single	27	11.7	19	8.5
Married	117	50.9	150	66.9
Cohabitation	9	3.9	8	3.6
Divorced/Separated	38	16.5	36	16.1
Widow/Widower	39	17.0	11	4.9
Education:				
Elementary	55	23.9	26	11.6
Vocational	90	39.1	75	33.5
Secondary comprehensive	35	15.2	39	17.4
Secondary vocational	36	15.7	55	24.6
University undergraduate and/or post-secondary	4	1.7	11	4.9
University	10	4.4	18	8.0

the main group to be unable to state explicitly whether the quality of their life is either positive or negative compared with those from the comparative group (44 % vs. 33.9 %). More than one third of the long-term unemployed subjects considered the quality of their life negative, whereas in the comparative group, the percentage of negative opinions was smaller and made up only one fourth of the studied subjects. (Table 2).

The quality of life of the unemployed was analyzed in four dimensions: physical health, mental health, social relationships and the environment (Table 3). The analysis showed that long-term unemployed people consider the quality of their life worse in all the four dimensions. The greatest difference between the studied groups was in the environment (-0.84), followed by physical health and social relationships (-0.81 each) and finally, the smallest – in mental health (-0.69).

While analyzing the quality of life in according to the 24 sub-dimensions of the quality of life given in the WHOQOL-BREF questionnaire, the authors identified 14 aspects in which there are significant differences between the studied groups (Table 4). It was concluded that long – term unemployed persons more often:

- feel they are unable to do any work (paid or unpaid),
- feel they are no longer able to lead a regular, everyday life,
- feel that physical pain limits their life activity,
- feel their life is useless and unimportant,
- stop accepting their physical appearance,
- does not feel happy with life,
- such negative feelings like sadness, apathy and fear become stronger,
- are less satisfied with their sexual life,
- are less satisfied with housing conditions and the environment,
- are less satisfied with their financial situation,
- are less able to move (transport),
- have less access to information needed in everyday life.

Table 2 The quality of life and the period of unemployment

How much are you satisfied with the quality of your life?	Long-term unemployed		Short-term unemployed		Total	
	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%
Highly dissatisfied	10	4.4	4	1.8	14	3.1
Dissatisfied	64	27.7	49	21.9	113	24.9
Neither satisfied nor dissatisfied	102	44.4	76	33.9	178	39.1
Satisfied	51	22.2	90	40.2	141	31.1
Highly satisfied	3	1.3	5	2.2	8	1.8
Total	230	100.0	224	100.0	454	100.0

$\chi^2=19.572$; $p<0.001$; $C=0.20$

Table 3 Dimensions of the quality of life and the period of unemployment

Calculated parameters	Long-term unemployed	Short-term unemployed
Physical health		
MEDIAN	14.46	15.27
Me	14.29	15.14
SD	2.12	2.39
Comparison	$z=3.799; p<0.001$	
Mental health		
MEDIAN	12.46	13.15
Me	12.00	13.00
SD	2.39	2.49
Comparison	$z=3.580; p<0.001$	
Social aspect		
MEDIAN	13.51	14.32
Me	14.00	14.67
SD	2.41	2.37
Comparison	$z=3.340; p<0.001$	
Environmental aspect		
MEDIAN	11.54	12.38
Me	11.50	12.50
SD	1.78	2.03
Comparison	$z=4.654; p<0.001$	

The authors did not observe any differences between the studied groups (Table 5) regarding the remaining 10 sub-dimensions of the quality of life in the WHOQOL-BREF questionnaire. In other words, no relationship was observed between the period of unemployment and:

- level of vitality,
- mobility,
- satisfaction with sleep,
- possibility of leading a regular, everyday life which depends on treatment,
- ability to concentrate,
- self-evaluation,
- satisfaction with provided social support,
- feeling of physical and mental security,
- possibility of involving in leisure,
- satisfaction with access to medical care.

The multi-factor logistic regression analysis showed that four factors mostly contribute to a positive evaluation of the quality of life. The financial situation of the household was found to be the most important factor. If it was average, the probability of making a positive evaluation of the quality of life grew by 4.5 times

Table 4 Sub-dimensions of the quality of life in the WHOQOL-BREF questionnaire with statistically significant differences between the long-term unemployed and short-term unemployed

	Long-term unemployed		Short-term unemployed		Statistical findings
	<i>n</i>	%	<i>n</i>	%	
Satisfaction with ability to work					$\chi^2=16,306; p<0,001; C=0,186$
No	33	14,4	26	11,6	
Medium	98	42,6	61	27,2	
Yes	99	43,1	137	61,2	
Satisfaction with the ability to lead a regular, everyday life					$\chi^2=12,679; p<0,01; C=0,165$
No	37	16,1	22	9,8	
Medium	119	51,7	95	42,4	
Yes	74	32,2	107	47,8	
Feeling that physical pain limits life					$\chi^2=12,599; p<0,01; C=0,164$
No	76	33	110	49,1	
Medium	105	45,7	80	35,7	
Yes	49	21,3	34	15,2	
Feeling of sense and importance of own life					$\chi^2=21,369; p<0,001; C=0,212$
No	9	3,9	8	3,6	
Medium	116	50,4	80	35,7	
Yes	105	45,7	136	60,7	
Acceptance of your own appearance					$\chi^2=7,344; p<0,05; C=0,134$
No	2	0,9	5	2,2	
Medium	121	52,6	90	40,2	
Yes	107	46,5	129	57,6	
Feeling happy with life					$\chi^2=18,385; p<0,001; C=0,197$
No	14	6,1	11	4,9	
Medium	117	50,9	74	33	
Yes	99	43	139	62	
Frequency of negative feelings: misery, fear, apathy					$\chi^2=9,149; p<0,05; C=0,141$
Never	29	12,6	41	18,3	
Seldom	86	37,4	101	45,1	
Often or always	115	50	82	36,6	
Satisfaction with personal relationships					$\chi^2=14,436; p<0,01; C=0,176$
No	18	7,8	21	9,4	
Medium	82	35,7	47	21	
Yes	130	56,5	156	69,7	
Satisfaction with sexual life					$\chi^2=11,617; p<0,05; C=0,158$
No	32	13,9	22	9,8	
Medium	120	52,2	91	40,6	
Yes	78	33,9	111	49,5	
Feeling of healthy environment					$\chi^2=22,366; p<0,001; C=0,23$
No	25	10,9	6	2,7	
Medium	166	72,2	142	63,4	

Table 4 (continued)

	Long-term unemployed		Short-term unemployed		Statistical findings
	<i>n</i>	%	<i>n</i>	%	
Yes	39	17	76	33,9	chi2=15,394; <i>p</i> <0,01; <i>C</i> =0,181
Satisfaction with housing conditions					
No	32	13,9	18	8	
Medium	78	33,9	58	25,9	
Yes	120	52,2	148	66,1	chi2=12,865; <i>p</i> <0,01; <i>C</i> =0,166
Possessing financial resources to satisfy needs					
No	104	45,2	65	29,0	
Medium	116	50,4	145	64,7	
Yes	10	4,3	14	6,3	chi2=12,555; <i>p</i> <0,01; <i>C</i> =0,164
Satisfaction with the ability to move (transport)					
No	25	10,9	25	11,1	
Medium	95	41,3	71	31,7	
Yes	110	47,8	128	57,2	chi2=28,942; <i>p</i> <0,001; <i>C</i> =0,245
Access to information needed in everyday life					
No	0	0	2	0,9	
Medium	175	76,1	115	51,4	
Yes	55	23,9	107	47,7	

(OR=4.511). The quality grew more than five times if the financial situation was very good (OR=5.081). Satisfaction with health resulted in a double increase in a positive evaluation of the quality of life (OR=2.331). If the satisfaction was extremely high, the evaluation grew by almost four times (OR=3.990). The social factor, i. e. satisfaction with personal relationships raised the evaluation 2.5 times (OR=2.620). If there were no more unemployed people in the household, the evaluation grew by more than two times (OR=2.296) (Graph 2).

The Health State of the Studied Subjects

The authors did not note a statistically significant difference between the long-term and short-term unemployed subjects with regard to satisfaction with their state of health (*p*>0.05). Almost half the studied subjects (45 %) were satisfied with their health, whereas in the comparative group the satisfied subjects made up 55 %. Those who were long-term unemployed also slightly more often expressed their dissatisfaction with their state of health (21.3 % vs. 17.4 %) (Table 6).

In the multi-factor logistic regression analysis, the most important feature remains the sense of dissatisfaction with ability to work. In the study it appeared to have a negative impact and resulted in a negative self-evaluation (OR=5.043). Physical inactivity and dissatisfaction with personal relationships were another significant factors contributing to increase negative self-evaluation of the state of health: 2.7 and 2.5 times, corresponding to OR=2.777 and OR=2.517 (Graph 3).

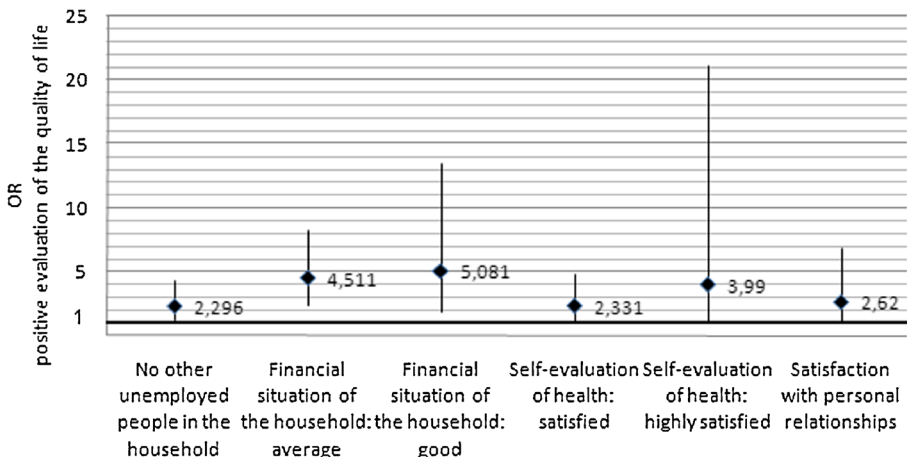
Table 5 Sub-dimensions of the quality of life in the WHOQOL-BREF questionnaire where there are no statistically significant differences between the long- and short-term unemployed.

	Long-term unemployed		Short-term unemployed		Statistical findings
	<i>n</i>	%	<i>n</i>	%	
Feeling “energy” to lead a regular life					chi2=9,098; <i>p</i> >0,05
No	6	2,6	6	2,7	
Medium	135	58,7	105	46,9	
Yes	89	38,7	113	50,4	
Ability to be mobile					chi2=3,650; <i>p</i> >0,05
Poor	7	3	4	1,8	
Medium	32	13,9	21	9,4	
Good	191	83,1	199	88,8	
Satisfaction with sleep					chi2=8,772; <i>p</i> >0,05
No	55	23,9	46	20,6	
Medium	68	29,6	49	21,9	
Yes	107	46,5	129	57,5	
Possibility of leading regular, everyday life which depends on treatment					chi2=5,461; <i>p</i> >0,05
No	90	39,1	112	50	
Medium	85	37	67	29,9	
Yes	55	23,9	45	20,1	
Ability to concentrate easily					chi2=7,044; <i>p</i> >0,05
No	7	3	3	1	
Medium	62	27	53	24	
Yes	161	70	168	75	
Feeling of self-satisfaction					chi2=2,888; <i>p</i> >0,05
No	21	9,2	15	6,7	
Medium	67	29,1	60	26,8	
Yes	142	61,7	149	66,5	
Feeling of satisfaction with the friends’ support					chi2=6,095; <i>p</i> >0,05
No	42	18,3	25	11,2	
Medium	56	24,3	57	25,4	
Yes	132	57,4	142	63,4	
Feeling of security in everyday life (physical and mental)					chi2=6,981; <i>p</i> >0,05
No	19	8,3	14	6,3	
Medium	169	73,4	155	69,2	
Yes	42	18,3	55	24,6	
Possibility of spending free time according to personal preferences					chi2=4,617; <i>p</i> >0,05
No	17	7,4	12	5,4	
Medium	166	72,1	156	69,6	
Yes	47	20,5	56	25	
Satisfaction with access to medical care					chi2=4,508; <i>p</i> >0,05
No	65	28,3	53	23,7	
Medium	78	33,9	93	41,5	
Yes	87	37,8	78	34,8	

For the purpose of the analysis of the impact of long-term unemployment on the mental state, the General Health Questionnaire (GHQ – 12) was used. Out of the whole group of the studied subjects, as many as 48 % demonstrated a risk of developing mental disorders. A statistically significant dependence between the period of unemployment and the result of the GHQ – 12 survey ($p < 0.01$) was observed. GHQ – 12 results higher than 2 points, indicating worsened mental state and a risk of developing symptoms such as depression or anxiety, were significantly more common in the group of long-term unemployed subjects (55.2 % whereas 41.1 % in short-term unemployed subjects) (Table 7).

Dissatisfaction with the ability to work turned out to be a factor seriously contributing to a negative self-evaluation. The risk of expressing such a view grew by more than ten times (OR=10.752). Inability to assess the state of health resulted in a five times higher risk of expressing a negative self-evaluation (OR=5.698) and in the event of dissatisfaction with personal relationships, the risk of developing mental disorders was more than four times higher (OR=4.236) (Graph 4).

The nature of chronic diseases was also analyzed. More than half of the long-term unemployed subjects (52.2 %) admitted that they had been diagnosed with a chronic disease during their period of unemployment, or if the disease had already existed, it was exacerbated during that period. In the comparative group the percentage was 45 %. Disorders of the cardiovascular system were the most common in both groups. The incidence of disease in the study and comparative groups was not significantly different ($p > 0.05$) with the exception of diseases of the respiratory system, which were significantly more common in long-term unemployed people ($p < 0.01$) – 7.8 % and 1.8 % (Table 8). Generally women complained about chronic disorders more often than men. Only diseases of the respiratory system in the study group and diseases of the cardiovascular system in the comparative group were more often noted in men. No statistically significant relationship was observed between the incidence of chronic disease and sex – both in the main and the reference group. However it was indicated that women more often suffered from mental disorders than men – the difference was statistically significant ($p > 0,05$) (Tables 9 and 10).



Graph 2 Odds ratio - Chance for a positive evaluation of the quality of life with 95 % confidence interval

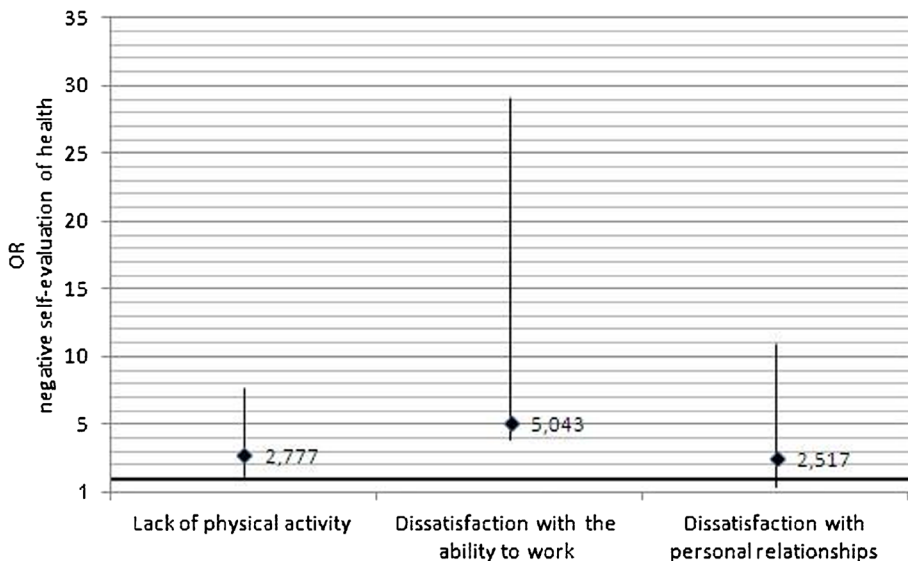
Table 6 Self-evaluation of health and the period of unemployment

How much are you satisfied with your health?	Long-term unemployed		Short-term unemployed		Total	
	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%
Highly dissatisfied	6	2.6	3	1.3	9	2.0
Dissatisfied	43	18.7	36	16.1	79	17.4
Neither satisfied nor dissatisfied	77	33.5	62	27.7	139	30.6
Satisfied	97	42.2	112	50.0	209	46.0
Highly satisfied	7	3.0	11	4.9	18	4.0
Total	230	100.0	224	100.0	454	100.0

chi2=5.126; $p > 0.05$

Discussion

The period of unemployment seems to influence the sense of well – being of unemployed people. In the group of long – term unemployed, 23.5 % of subjects considered the quality of life positive while in the reference group, 42.2 %. That evaluation is worse than the evaluation made by the young unemployed (aged 20 – 25) where 67 % subjects considered their quality of life positive (Axelsson et al. 2007). However, studies conducted on a representative group of Polish inhabitants show that quality of life of the unemployed subjects presented in this study is much worse: the evaluation of positive quality of life for Poland is around 70 % (Wciórka 2007; Czapiński and Panek 2009). Some other studies also indicate that the employed consider the quality of their life better than those who are unemployed (Martella and Maass 2000; Bernklev et al. 2006; Jiang and Hesser 2006; Zagożdżon and Ejsmond



Graph 3 Odds ratio - risk of a negative self-evaluation of health with 95 % confidence interval

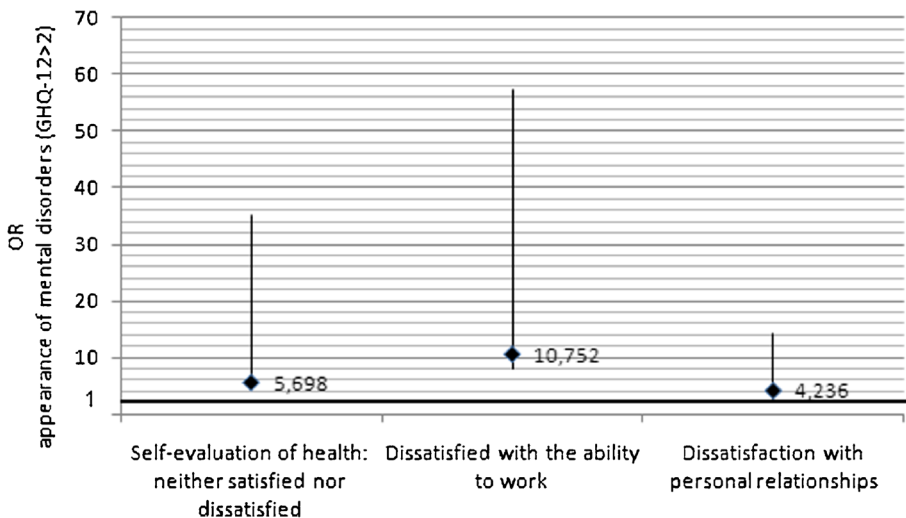
Table 7 General mental state and the period of unemployment

GHQ 12 Questionnaire results	Long-term unemployed		Short-term unemployed		Total	
	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%
GHQ 12≤2	103	44.8	132	58.9	235	51.8
GHQ 12>2	127	55.2	92	41.1	219	48.2
Total	230	100.0	224	100.0	454	100.0

chi2=9.095; *p*<0.01; *C*=0.140

2008; Vanassche et al. 2012). One of the most important factors influencing the general evaluation of the quality of life was the financial situation of the household. A good financial situation significantly increased the chance of positive opinion of quality of life of the unemployed. This confirms the findings from previous studies in which financial condition, especially low – income, is a significant factor of low quality of life (Zahran et al. 2003; Powdthavee 2010; Rojas 2011). However, financial state is not the only factor which defines quality of life, social relationships also play a vital role in the level of quality of life of the unemployed. Satisfaction with personal relationships and living in a household with no other persons without a job may lead to a good perception of quality of life: this confirms the results of other studies that emphasize the role of social environment and the variety and extent of social relations in modifying the health effects of unemployed (Leeflang et al. 1992; Béland et al. 2002).

Unemployment-related stress results in lower self-evaluation of the state of health. The results are similar to the previous studies (Blaxter 1990; Latalski et al. 2004; Kostrzewski and Worach-Kardas 2008). In comparison to the whole population, the long-term unemployed subjects consider their state of health more negative. Only 45 % of long-term unemployed subjects claim it to be good, but the average



Graph 4 Odds ratio - risk of appearance of mental disorders (GHQ-12>2) with 95 % confidence interval

Table 8 Chronic diseases and the period of unemployment

Disease	Long-term unemployed		Short-term unemployed		Comparison of the incidence	
	<i>n</i>	%	<i>n</i>	%	Chi2	<i>p</i>
Cardiovascular diseases	73	31.7	55	24.6	2.894	<i>p</i> >0.05
Diseases of the alimentary tract	23	10.0	12	5.4	3.438	<i>p</i> >0.05
Diseases of the respiratory system	18	7.8	4	1.8	8.980	<i>p</i> <0,01
Mental disorders (including neuroses)	17	7.4	23	10.3	1.169	<i>p</i> >0.05
Other chronic diseases	42	18.3	45	20.1	0.347	<i>p</i> >0.05
No disorders or no exacerbation of existing disorders observed	110	47.8	123	54.9	2.280	<i>p</i> >0.05

The percentage is not 100 as the subjects could choose more than one option

percentage for the whole Polish population is 72 % (Czapiński and Panek 2009). One clear indication of the findings is that unemployment-related stress results in a worsened mental state and the appearance of negative emotions (Leefflang et al. 1992; Claussen et al. 1993; Bjarnason and Sigurdardottir 2003). The authors concluded that long-term unemployment is highly stressful and in the group of the subjects remaining without work for more than 12 months, apathy and depression symptoms appeared. Those remaining out of work for a period up to 6 months more often developed mental disorders. In the opinion of some researchers, some serious psychological disorders might sometimes appear within the period of 6 months following the loss of work. Although this psychic instability wears off after the this 6-month period, they are still threatened with anxiety, fears, lack of self-confidence and depression (Rowley and Feather 1987; Warr 2004).

Population studies, both retrospective and prospective, indicate that in the period of unemployment, the probability of developing somatic diseases is higher. The longer the

Table 9 Incidence of chronic diseases according to sex in the group of the long-term unemployed

Disease	Long-term unemployed				Comparison of the incidence	
	Men		Women		Chi2	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Cardiovascular diseases	33	28.9	40	34.5	0.813	<i>p</i> >0.05
Diseases of the alimentary tract	10	8.8	13	11.2	0.379	<i>p</i> >0.05
Diseases of the respiratory system	11	9.6	7	6.0	1.041	<i>p</i> >0.05
Mental disorders (including neuroses)	4	3.5	13	11.2	4.978	<i>p</i> <0.05
Other chronic diseases	18	15.8	24	20.7	0.925	<i>p</i> >0.05
No disorders or no exacerbation of existing disorders observed	59	51.8	51	44	1.398	<i>p</i> >0.05

The percentage is not 100 as the subjects could choose more than one option

Table 10 Incidence of chronic diseases according to sex in the group of the short-term unemployed

Disease	Short-term unemployed				Comparison of the incidence	
	Men		Women		Chi2	p
	n	%	n	%		
Cardiovascular diseases	30	27.0	25	22.1	0.726	$p > 0.05$
Diseases of the alimentary tract	6	5.4	6	5.3	0.201	$p > 0.05$
Diseases of the respiratory system	1	0.9	3	2.7	0.237	$p > 0.05$
Mental disorders (including neuroses)	6	5.4	17	15.0	5.647	$p < 0.05$
Other chronic diseases	17	15.3	28	24.8	3.124	$p > 0.05$
No disorders or no exacerbation of existing disorders observed	64	57.7	59	52.2	0.671	$p > 0.05$

The percentage is not 100 as the subjects could choose more than one option

period, the more episodes of somatic disease are noted (Martikainen and Valkonen 1996; Leeftang et al. 1992). This study only partly confirms these observations. Long-term unemployed subjects admitted suffering from chronic diseases more often than short-term subjects did. The difference was not statistically significant. According to previous studies, unemployed people more often develop and die of cardiovascular diseases (Geyer and Peter 2003; Eliason and Storrie 2009). The present study shares the same observation: the most common diseases or were most often exacerbated in the period of unemployment were cardiovascular diseases. However, the study confirms that diseases of the respiratory system are related to length of unemployment. The results of studies conducted on the Finnish labour market and studies by L. Fagin, S.V. Kasl turned out to be similar (Przewoźniak 2000; Linkola 2007; Bańka 1992).

Conclusions

Unemployment induces stress and can be treated as a negative environmental factor. According to the scale created by American psychologists T.H. Holmes and R. Rahe showing the relationship between life events and stress, loss of work is placed in the top ten most stressful life events. Unemployment is only less stressful than a disease or any other injury or the death of a relative. It is more stressful than a relative's deterioration of health, retirement or sexual problems (Holmes and Rahe 1967).

Results of the loss of work are not the same for all unemployed people. They depend on the age of the person and their time on the labour market. For people at medium- and late-productivity age, unemployment might often mean the end of their professional career, decreased pension benefits and further health disorders, which grow in number with age.

Multi-factor logistic regression analysis confirmed that the effect of unemployment depends not only on the economic situation of the household but also on other accompanying factors. In order to maintain a good sense of well-being, it is important that unemployed, as well as unemployed care institutions, should be aware that factors other than noneconomic ones are also significant. It is important to take action

aimed at maintaining both a good state of health and the individual's sense of good health through physical activity and a healthy diet. Also efforts to counteract social exclusion, maintain diverse social relationships and promote integration and participation in the community may have an important positive influence on the sense of well-being of the unemployed.

Although differences in health self-evaluation between long-term and short-term unemployed were observed, these were not statistically significant. The casual relationships between health and unemployment seem to be sufficiently unclear to make a clear identification of the deterioration of the state of health during prolonged unemployment impossible. Long-term unemployment seems to have more influence on subjective quality of life, in all dimensions, and health self-evaluation was an important factor increasing the chance of positive evaluation of quality of life. A multi-analysis conducted by Veenhoven (2008) shows that happiness can foster physical health and protect from ill health. Happiness and a sense of well-being of the unemployed should be seen not only as an outcome of their life situation, but as prediction of their health potential, which is essential for re-employment. The research outcomes show that further studies on the relationship between health and unemployment should consider the modifying role of various socio-economic factors on the effects of unemployment, not only from the perspective of the physical health of the unemployed, but also that of quality of life and their subjective sense of well-being.

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