PRIMENJENA PSIHOLOGIJA, 2016, Vol. 9(4), STR. 379-394

UDK:331.565:159.9
Originalni naučni rad
doi: 10.19090/pp.2016.4.379-394

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PSYCHOPHYSICAL HEALTH DURING PROLONGED UNEMPLOYMENT: LONGITUDINAL DATA[2]

Research on health effects of unemployment have shown inconsistent findings, both in terms of stability and factors of overall health during time without a job, and in terms of the significance of factors based on which one can reliably predict the health of the unemployed. The Psychophysical health scale was conducted on a sample of 222 unemployed individuals in the Republic of Serbia, in order to analyze factors of general psychophysical health. By applying a longitudinal study design, we measured general health of the unemployed from four regions in the Republic of Serbia on three occasions (March 2012, October 2012, and May 2013). During the course of the study, the results have indicated that, unemployed individuals show significantly fewer symptoms of ill-health, that women, as a group, are more vulnerable in most aspects of health, that the oldest unemployees report symptoms of health deterioration most often, and that job loss does not produce different effects on health in people with different levels of education. These results are discussed in light of findings from previous research studies.

Keywords: unemployment, psychophysical health, longitudinal data

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Primljeno: 03. 07. 2016.
Primljena korekcija: 22. 09. 2016.
Primljena ponovna korekcija: 03. 12. 2016.
Prihvaćeno za štampu: 04. 12. 2016.

[2] This research was supported by the Serbian Ministry of Education, Science, and Technological Development, project number 179022. Parts of these findings were presented on the National Conference of Psychologists of Serbia (Slijepčević et al., 2016).

From 2007 to 2010, it was estimated that 210 million people worldwide lost a paid job (International Labor Organization, 2010, as cited in Wanberg, 2012). According to Eurostat, unemployment in the EU varies across countries, ranging from 24.0% in Greece to 4.3% in Germany. In Serbia the unemployment rate estimated for 2016 is 18.5% (IMF Country Report, September 2016). Unemployment support also varies, from 0.7% of BDP in Czech Republic to 3.4% in Spain, with a different percentage of people in these countries eligible for temporary unemployment help (OECD data for 2011). In Serbia, 8.8% of the unemployed are eligible to receive financial support for three months to one year, depending on their work tenure. These contextual differences are important for the research of unemployment and its consequences on the well-being of individuals and their communities.

Why does job loss matter if we know that people will find another job, sooner or later? It does matter because it diminishes human resources both in an individual, and in the local community, as well as globally. Unemployment alters way of life and represents a new status of employable and employ-willing person occurred after involuntary lost of a paid job (Majstorović, 2011). This individual, social and economic phenomenon and its consequences on psychological and physical health have attracted the attention of researchers in recent decades. Literature often perceives job loss as one of the most difficult forms of stress in an individual's life (Latack, Kinicki, & Prussia, 1995). Research results indicate that, compared to the employed, the unemployed show more depressive symptoms (Feather & O' Brien, 1987), a higher level of anxiety (Henwood & Miles, 1987; Price & Fang, 2002), and social isolation (Šverko, Galić, & Maslić Seršić, 2006). The job loss is associated with a reduction in general welfare (DeWitte, 1993), somatic symptoms such as insomnia, headaches and chronic diseases (McKee-Ryan & Kinicki, 2002), leading to feelings of guilt, shame and loss of identity (Björklund, Söderlund, Nyström, & Häggström, 2015).

Based on 104 studies of unemployment effects on general psychophysical health, the conceptual model that describes the factors of the level of psychophysical well-being after a job loss has been formulated (Figure 1, see McKee-Rayan & Kinicki, 2002). Although unemployment generally has negative consequences on different aspects of daily functioning and health, the intensity and duration of these consequences are not the same for all groups of unemployed people.

When it comes to the importance of demographic characteristics for unemployment health consequences, research results vary to a great extent. Most researchers agree that there is a positive correlation between length of unemployment and health deterioration (e.g. Dragun, Russo, & Rumboldt, 2006; Feather & Barber, 1983; Galić, Maslić Seršić, & Šverko, 2006; McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Šverko, Maslić Seršić, & Galešić, 2004). Paul and Moser (2009) discover linear and non-linear detrimental effects of prolonged unemployment on health, and explain that the severity of these effects is related to contextual factors such as the level of economic development, equality of income distribution in society, and the strength of unemployment protection in the system. Some research,

however, mention positive effects of short-term unemployment, where job loss is perceived as a 'healthy break' (Maccoby, 1998, as cited in Reine et al., 2004). According to curvilinear hypothesis, the peak of negative effects is reached around the 6th month of unemployment, when the 'improvement' takes place (Warr & Jackson, 1984). Some other researchers indicate that "well-being remains fairly constant up to 9 months, and shows deterioration from then on" (Winnefield & Tiggemann, 1990, p. 464). Gordo (2006) finds that a stabilization of ill-health symptoms occurs after 12 months of work deprivation. In a sample of the unemployed in Serbia, Majstorović and associates (Majstorović, Popov, Matanović, Slijepčević, & Jelić, in press) reveal that the incidence of symptoms of health disorders grow during up to 7 months of unemployment, when a drop in their frequency occurs.

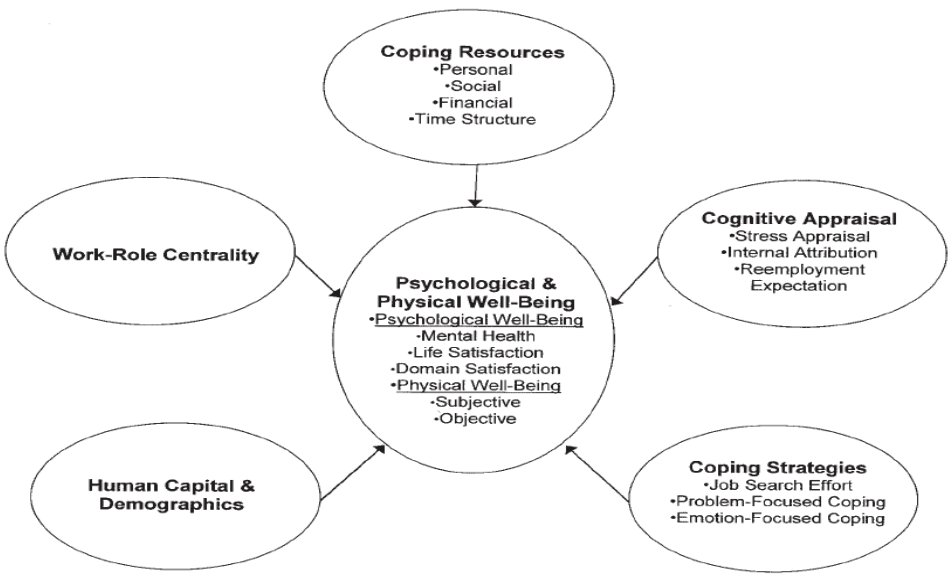

Figure 1. Model of employees' psychophysical health (McKee-Ryan & Kinicki, 2002).

Furthemore, results of one group of studies indicate that women tolerate the loss of a paid job more easily than men (Leana & Feldman, 1994; Reine, Novo, & Hammarström, 2004), while the other group argues that labor deprivation has a more negative impact on women than on men (Fryer & Payne 1986; McKee-Ryan et al., 2005).

It has been also found that the negative effects of unemployment differ in younger and older people, and that this relationship is curvilinear. In their longitudinal study Reine and associates (Reine et al., 2004) concluded that work deprivation had a higher correlation with psychophysical problems at the age of 21 than among unemployed who were older (30 years old or older). Maslić Seršić

(2006) found that health differences between unemployed and the general population increased with age and reached their peak in the middle age group. Other studies pointed out that the effects of unemployment were largely manifested in people aged 30 to 59. (e.g. Daniel, 1974; Hepworth, 1980; Warr & Jackson, 1984).

McKee-Ryan and associates (McKee-Ryan et al., 2005), Marić (2005) and Maslić Seršić (2006) established that individuals who were more educated showed fewer symptoms of health disorders after losing a job, and were more likely to have positive expectations regarding their re-employment (Price & Fang, 2002). However, on a sample of the unemployed in Serbia, Majstorović (2011) found no significant differences in health among groups with different levels of education.

In conclusion, a majority of previous studies suggest a positive correlation between job loss and health deterioration. Some studies, however, indicate an 'improvement' in health after some period of unemployment. The significance of demographics in job-loss-ill-health relations remained unclarified due to many opposing findings.

Objectives and hypotheses

The main objective of this paper was to examine unemployees' health status over time by using a longitudinal research design. In addition, two specific objectives of this research are the following:

1. To describe psychophiscal health of the unemployed over a period of 14 months.
2. To analyze the importance of demographic characteristics for psychophysical health during the course of unemployment.

Based on the findings from previous unemployment-health researches (e.g. McKee-Ryan et al., 2005; Marić, 2005; Majstorović, 2011; Majstorović et al., in press; Wanberg, 2012) we formulated the following hypotheses:

H1: The frequency of symptoms of ill-health increases up to 7 months of unemployment, and then decreases indicating an 'improvement' in measures of psychophysical health.

H2: Job loss has the greatest impact on the health of unemployed people between the age 35 and 50.

H3: The biggest effect of unemployment on health is among unemployed individuals with lower education.

H4: Gender has no significant effect on the relationship between job loss and health.

Method

Sample and procedure

Data were collected from a representative sample of unemployed individuals from four regions in the Republic of Serbia. Three measurements were performed within intervals of six-seven months (March 2012, October 2012 and May 2013). From a total of 1,038 completed questionnaires, which were collected from 438 unemployees in T1, from 358 in T2, and from 242 in T3, the final sample consisted of 222 participants who had valid data in all three measurements and who remained truly unemployed during the survey period. The attrition rate of 49% indicated a high dropout of participants during the study. However, the analysis of differences between drop outs and those who remained in the final sample showed no significant differences in regard to general health, level of education, gender, or age in the first measurement. The sample consisted of individuals representing the unemployed population in Serbia, of which 44.4% were women, age between 26 and 59, 68% with secondary school education, 14.4% with primary education, 6.8% have completed college and 10.8% with higher education, 22% with unemployment tenure up to 12 months, and 71% being unemployed longer than 12 months[3]. Regarding unemployment tenure, unemployeed were divided into two groups: the short-term unemployed (up to 12 months) and the long-term unemployed (out of work for 12 months or longer), based on the definition given by the OECD (1988). Respondents were also categorized based on the highest level of completed formal education (primary, secondary, BA or higher), and they were divided into 4 age categories (26–35 years old, 36–45 years old, 46–50 years old, and 51–59 years old). Psychologists in regional branches of the National Employment Service collected all data by obtaining previous informed consent from all participants, and giving a signed statement on secrecy of findings. Due to the design of the study, which included repeating measures on the same participants, it was not possible to ahieve the complete anonymity.

Instrument

Psychophysical Health Scale (PHS-1: Majstorović, 2011). Psychophysical health is defined as the degree of absence of ill-health symptoms in the form of expressed ill-physical health, fear and anxiety, chronic fatigue, depression, and social dysfunctions, considered here as five dimensions of health. PHS-1 contains 23 items with a four-point Likert scale, requiring from participants to rate frequency of ill-health symptoms during the past several weeks (e.g. 'In the past several weeks … did you have headaches?'). Status of the respondents in this questionnaire is calculated as a mean value on all items of the questionnaire. The internal consistency of the PHS-1 questionnaire is high at $\alpha = .92$, while the range of Cronbach's reliability

[3] 7% were missing data.

coefficients for five PHS-1 subscales (Physical ill-health, Fear and anxiety, Depressive reactions, Fatigue, and Social dysfunctionality) is from .61 to .85.

Results

Health improvement: Cross-sectional data from the first measurement

As already emphasized, based on our earlier research, we expected a significant decline in ill-health symptoms after 7 months of being unemployed. For the sake of simplicity, we divided all our participants in two groups: the group with unemployment tenure up to 7 months (1), and the group with the unemployment tenure of more than 7 months (2). Our results showed that individuals who were unemployed for 7 months or less showed significantly more symptoms of ill-health compared to those who were out of work for more than 7 months ($t(204) = 2.63$, $p < .01$).[4] Two groups of the unemployed differed significantly in all dimensions of health, except in the dimension of Depressive Reactions. The diagram below shows a noticeable decline in the symptoms of almost all dimensions of psychophysical health (Figure 2).

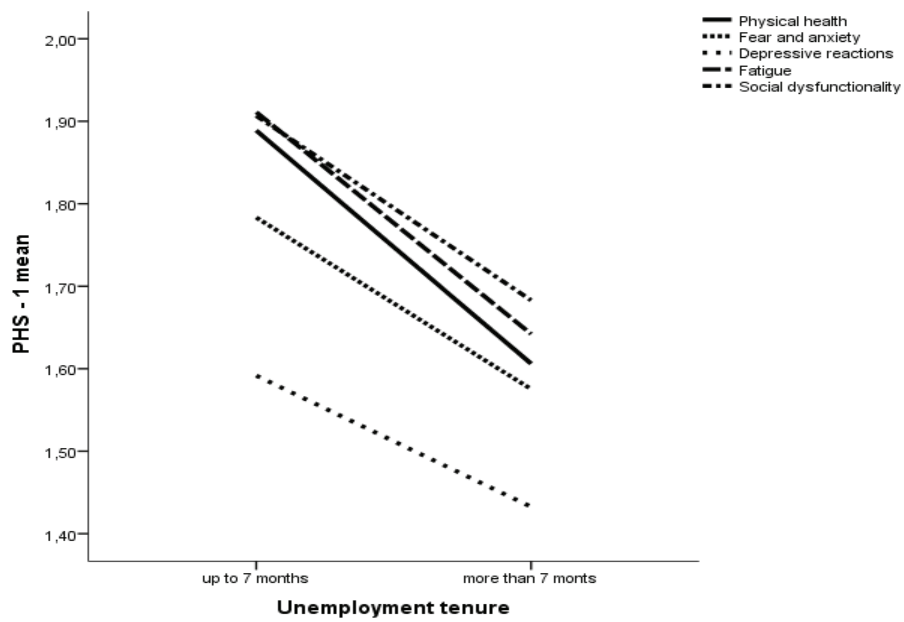

Figure 2. Drop of symptoms ('improvement') after 7 months of unemployment: evidence fom cross-sectional data ($N = 222$).

[4] This analysis was possible in the first measurement only, since there were no participants with less than 7 months of unemployment in the second measurement (after a passage of 7 months).

Health improvement: Evidence from longitudinal data

As shown in Figure 3, mean values of general health measures that were obtained three times showed that the unemployed estimated the frequency of ill-health symptoms most commonly between the degrees of 1 = *never* and 2 = *yes, but rarely* (Table 1). These descriptive measures indicated that the unemployees seemed to 'improve' their overall psychophysical health during the course of the study, i.e., they showed a tendency to reduce the frequency of ill-health symptoms ($F(2, 220) = 4.49$, $p < .01$). Still, cross-correlations among measures of general health in three time-points revealed relatively high stability ranging from .56 (correlation between the first and the third measurement) and .70 (correlation between the second and the third measurement, both $p < .001$).

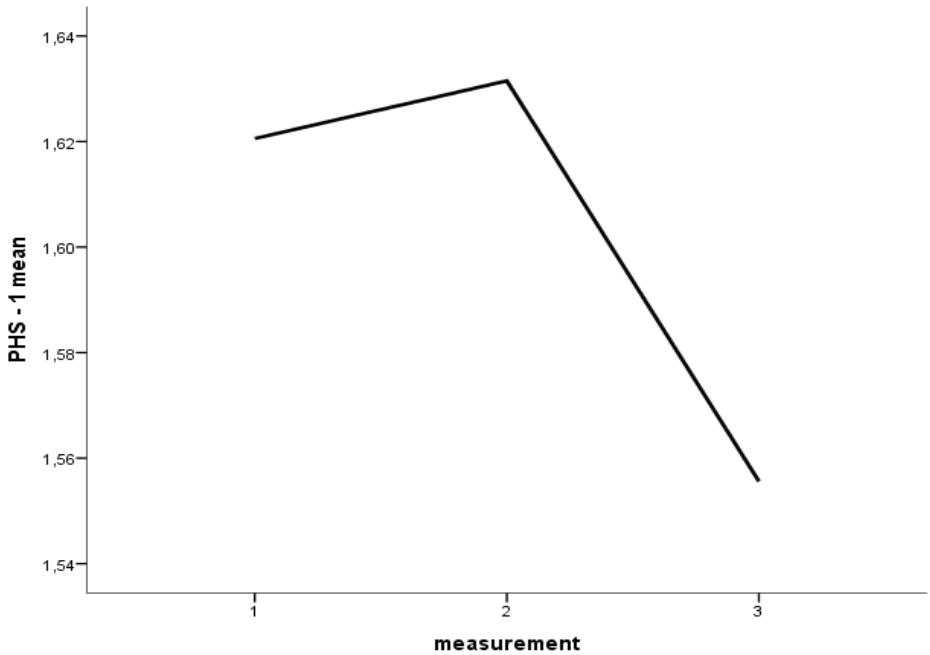

Figure 3. Mean values of frequency of ill-health symptoms measured three times ($N = 222$).

Longitudinal data: Unemployment tenure and health

Figure 4 clearly shows a tendency of general psychophysical health 'improvement' among all unemployees who participated in this research. We can see that symptoms of ill-health were most frequently manifested in those who were unemployed up to 12 months, while less symptoms were reported among the un-

employed who were without a job longer than 12 months. More specifically, the analysis showed that the time-flow affected the incidence of general ill-health symptoms with significantly lower mean values in the third measurement than in the second one ($F(2, 220) = 2.01$, $p < .05$). When the time effect was combined with unemployment tenure no significant interaction effect was found ($F(2, 203) = 0.35$, $p > .05$). The significant effect of unemployment tenure was also detected ($F(1, 204) = 3.99$, $p < .05$). Namely, it was found that two unemployment tenure groups differed significantly, with a higher mean symptom rate in the group who was up to 12 months jobless than in the group being without a job longer than 12 months. Since we did not have an interaction effect, but a significant drop in ill-health symptoms over time, we carried out an additonal analysis of differences among all six groups (2 groups in 3 time points), in order to find a declining tendency within one of the unemployment tenure groups. A significant difference emerged within the unemployment groups that were searching for a job longer than 12 months. This group demonstrated a significantly higher rate of symptoms in time 1 than in time 3. We could notice from these findings that a significant decline of ill-health symptoms took place during the period of 14 months of unemployment, but only among those who were looking for a job longer than 12 months. The unemployees who lost their job up to one year ago did not show an improvement in psychophysical health during the survey time of 14 months.

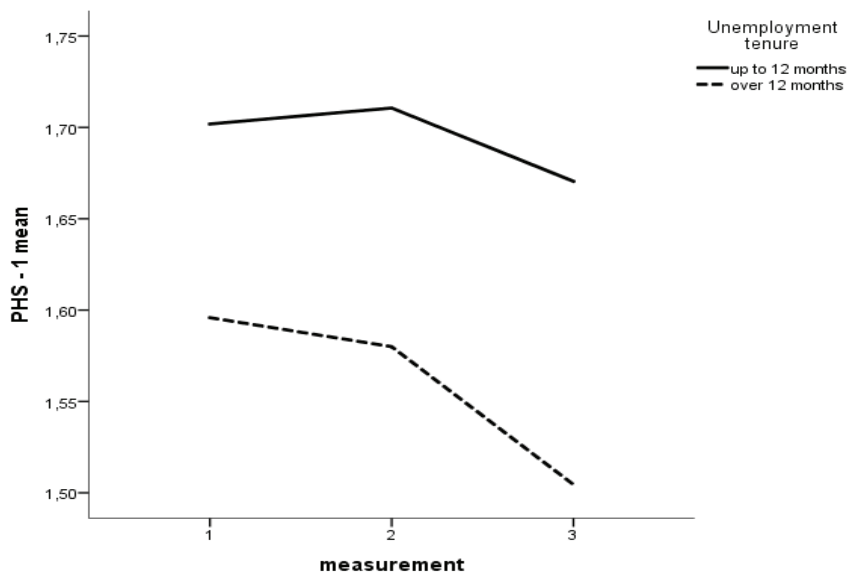

Figure 4. Mean values of ill-health symptoms and unemployment tenure ($N = 222$).

Longitudinal data: Gender and health of unemployed

When it comes to gender, the results indicate a tendency to higher vulnerability in women (Figure 5).

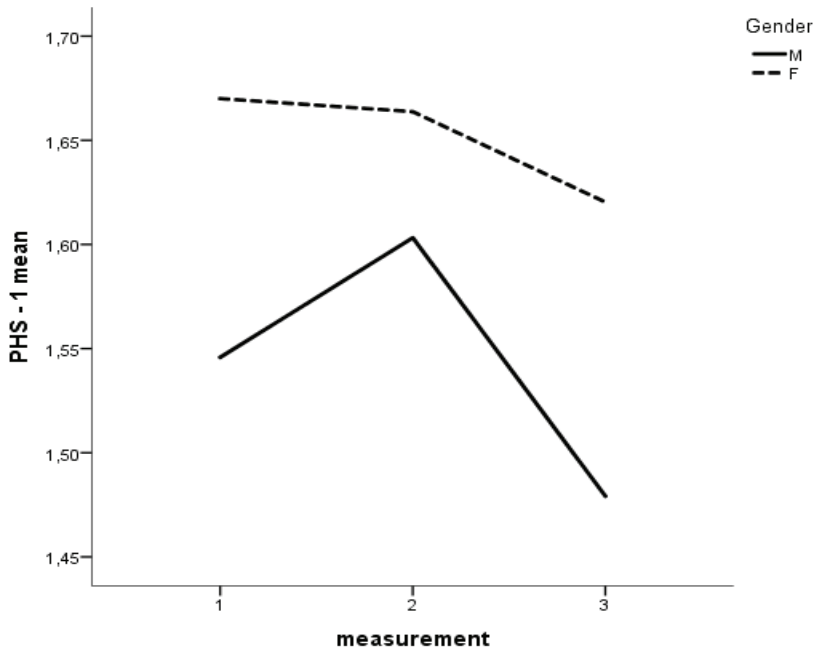

Figure 5. Mean value of symptoms frequency and gender (N = 222).

The analysis of the difference among gender groups showed that, according to the total score of health, the effect of time was significant ($F(2, 204) = 4.52$, $p < .01$), but the effect of gender ($F(1, 205) = 3.28$, $p > .05$) and interaction between time and gender were not insignificant ($F(2, 204) = 1.08$, $p > .05$). However, it was obtained on univariate level that women were significantly more vulnerable in all dimensions of health, except in Social Dysfunctionality.

Age and health of the unemployed

When it comes to the effects of age on job loss in relation to health, the effect of time was significant ($F(2, 217) = 4.89$, $p < .01$). The significant differences between age groups according to the frequency of symptoms of impaired psychophysical health over time were also observed ($F(6, 434) = 2.44$, $p < .05$), while the effect of age was found to be non-significant ($F(3, 218) = 1.90$, $p > .05$). Based on the significant interaction effect, it was determined that the oldest unemployees had the largest increase in symptoms in the second measurement compared to

the first measurement, while the third lead to stabilization. As shown in Figure 6, a group of unemployees whose age was from 36 to 45 showed the lowest average frequency of ill-health symptoms, and very mild fluctuations in symptoms over time.

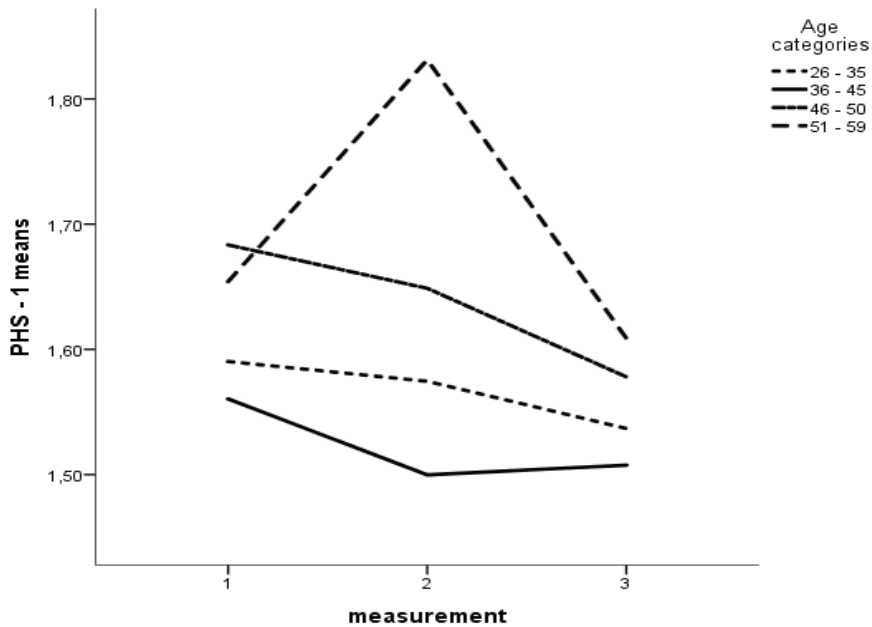

Figure 6. General health of the unemployed of different ages (N = 222).

Education and health of the unemployed

Considering the educational level of the unemployed, the significant differences were found neither in the frequency of ill-health symptoms over time ($F(2, 203) = 3.20$, $p > .05$), in the interaction of time and groups ($F(4, 406) = 0.53$, $p > .05$), nor among educational groups regardless of the time of measurement ($F(2, 204) = 0.01$, $p > .05$).

Discussion

The main objective of this paper was to examine the health status of the unemployed over time. Results concerning the description of total psychophysical health of the unemployed show that this is a relatively healthy population that most frequently rates its symptoms with 2 = *yes, but rarely,* or with 1 = *no, never*. Furthermore, distribution of incidence shows a clear tendency towards health im-

provement with the time-flow. It has been confirmed that unemployment tenure, gender and age play an important role in the frequency of symptoms of ill-health among the unemployed.

It has been assumed that there is a curvilinear relation between unemployment tenure and health, that is to say, that after the initial increase in ill-health symptoms we see a significant decrease after 7 months of waiting for a job (H1). The results have confirmed this expectation (find more about this further in the discussion), however indicating other dynamics of health and tenure after 7 months though. Namely, if we follow the classifiction of the unemployment tenure given by OECD (1988) 'up to 12 months' and 'longer than 12 months', we can find that a higher rate of ill-health symptoms is reported by the unemployed who have been waiting for a job shorter (up to 12 months). The basis for the decrement of symptoms and differences in general psychophysical health between two tenure groups has been found in the declining frequency of symptoms of social dysfunctionality, fatigue, and fear and anxiety. Our results have also indicated that the decrement of symptoms in these health dimensions during 14 months of survey time rather characterises the health of the long-term unemployed persons, while the group of short-term unemployed persons keeps symptom frequency of their ill-health higher and approximately on the same level.

The analyses of the significance of age of the unemployed show that the group of oldest participants is the most vulnerable, and that the lowest degree of symptoms is recorded in the group aging between 36 and 45. These findings disallow hypothesis H2, and differ from the findings of studies in which it has been determined that middle aged unemployed persons are most sensitive to job loss (Šverko et al., 2004; Warr & Jackson, 1984). However, these results are in line with many other studies that point out that health of the elderly (50–65 years) is deeply affected by job loss (e.g. Alavinia & Burdorf, 2008). Bearing in mind the current circumstances of employment in the Republic of Serbia, it is possible that the loss of work produces the greatest stress in people who are from 51 to 59 years old, while the middle-aged have had relevant working experience, and the highest level of optimism with regard to employment.

As for gender differences, hypothesis H4 has been refuted and the results show that women are more likely to report ill-health symptoms than men, in all three measurement points. This finding is consistent with results of previous studies (Fryer & Payne, 1986; McKee-Ryan et al., 2005) that claim men tolerate the unwanted job loss more easily. Specifically, from five measured health dimensions, in four of them women have shown a significantly higher frequency of symptoms. The pattern of changes in ill-health symptoms over time is also different. In women, the frequency of symptoms drops monotonously, while in men decrease of symptoms occurs after seven months of waiting for a job.

The results also show that there are no significant differences in the level of health deterioration symptoms among the unemployed with different levels of education (H3). These results are not in line with previous research (Marić, 2005;

McKee-Ryan et al., 2005; Price & Fang, 2002), but they are in line with our previous findings (Majstorović, 2011).

In accordance with the curvilinear hypothesis (i.e. 6 months as a breaking point for the health 'improvement', Warr & Jackson, 1984), the results of this study clearly indicate that those who are unemployed for less than 7 months have shown significantly more symptoms of ill-health compared to those who are waiting for a job longer than 7 months.

Besides the effect of unemployment on general health per se, in this discussion we should pay attention to the effect of time, which seems to be largely independent from the effect of previous employment tenure. Even though the interaction of the time-flow and previous unemployment tenure is not statistically significant, we can notice that groups of short-term and long-term unemployed behave differenty in terms of health improvement. In the first cohort of the unemployed, the 14 months of time-flow do not produce an improvement in health. Our results indicate that this takes place only if an individual is unemployed for at least 12 months, and the additional 14 months have passed. The implication of this finding is that a trend towards healing arises after 7 months of unemployment. We might assume that this improvement can reach the level expected to be found in the normal and employed population. Of course, in order to test such an assumption we would need a comparative longitudinal study of changes in the employed and the unemployed. In this discussion, we should also bear in mind the remark of some researchers that this health 'improvement' is not a real healing process but, rather, a state that might be formed due to the occurrence of so called resigned adaptation 'characterized by an impairment of … aspiration, autonomy and competence' in the circumstances of unemployment (War & Jackson, 1987, p. 1223).

Conclusions

The results of this study provide the basis for the following conclusions:

1. Results are in accordance with the curvilinear assumption, showing that health of the unemployed in the Republic of Serbia has a tendency to 'improve' during the course of unemployment.
2. Health 'improvement' is related to the individual's coping strategies, and occurs if the unemployed use the problem-focused strategy more frequently.
3. The oldest group of the unemployeed (51–59) is the most vulnerable of the unemployed population, while the least symptoms of health deterioration have been recorded in the group aged between 36 and 45.
4. Results reveal that the loss of employment does not produce significantly different effects on general health in people with different level of education.
5. Women are more likely to report ill-health symptoms as a consequence of unemployment in comparison to men.

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PSIHO-FIZIČKO ZDRAVLJE TOKOM PRODUŽENE NEZAPOSLENOSTI: LONGITUDINALNI PODACI

Istraživanja efekata nezaposlenosti na zdravlje pokazuju nekonzistentne nalaze, kako u pogledu stabilnosti i faktora ukupnog zdravlja tokom trajanja nezaposlenosti, tako i u pogledu značaja faktora na osnovu kojih se može pouzdano predviđati zdravlje nezaposlenih osoba. Na uzorku od 222 nezaposlene osobe u Republici Srbiji sprovedeno je istraživanje sa ciljem analize faktora nivoa ukupnog psiho-fizičkog zdravlja. Primenom longitudinalnog nacrta istraživanja izvršena su tri ponovljena merenja ukupnog zdravlja nezaposlenih (mart 2012., oktobar 2012. i maj 2013. godine) u četiri regiona Republike Srbije. Rezultati pokazuju da tokom 14 meseci studije nezaposleni izveštavaju o začajno manje simptoma poremećaja zdravlja, da su nezaposlene žene vulnerabilnija grupa po većini aspekata zdravlja, da najstariji nezaposleni pokazuju i najčešće simptome poremećaja zdravlja, da gubitak posla ne proizvodi različite efekte na zdravlje kod osoba sa različitim nivoom obrazovanja. Nalazi su razmatrani u svetlu rezultata prethodnih istraživanja.

Ključne reči: nezaposlenost, psiho-fizičko zdravlje, longitudinalni podaci