



**Doctoral School of  
Sociology**

**THESES**

**Eva Ivony**  
**Changes of the subjective quality of life during  
the economic crisis in Hungary**  
Ph.D. dissertation

**Supervisors:**

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**Zsolt Spéder PhD**  
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Budapest, 2018

**Faculty of Social Sciences and  
International Relations  
Institute of Sociology and Social Policy**

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## Content

1.	Research background and significance of the topic.....	4
2.	Data and methods .....	9
3.	Results of the empirical study.....	11
4.	Summary of conclusions .....	16
5.	Main references .....	17
6.	Publications .....	19

## **1. Research background and significance of the topic**

The 2008 financial and economic crisis has been a shock to European societies, and its adverse effects were represented primarily in lower economic performance, higher unemployment rates, primarily among young people, and in growing social polarization especially in transition countries. In parallel with this, the deterioration of living conditions has brought more stress, uncertainty and frustration to the everyday lives of European citizens, first and foremost in the vulnerable social groups (European Commission, 2014). Everyone could perceive the negative effects of the crisis on their own quality of life, such as in Hungary. Starting from the „crisis year” (2009) the changes of the main macroeconomic, social- and income inequality indexes showed an unfavorable trends until 2012, but an improvement could be seen from 2013 (Szivos-Tóth, 2013, 2015, Medgyesi-Nagy, 2014; Gábos et al., 2016; Medgyesi, 2016). Concerning the subjective indicators, while both the life satisfaction and the personal happiness declined during the crisis – with a short interruption, and increasing period in 2010 –, after the years of the second recession by 2012, a return to the pre-crisis level has not happened (Ivony, 2017).

This paper, as part of a larger overall research study, aimed to investigate the effects of the economic crisis of 2008 on subjective life quality of the Hungarians. We were looking to answer the research question, did the subjective life quality of the population in Hungary has declined, on average, during the years of the recession compared to the years before the crisis, when measured with a multidimensional indicator. Regarding the crisis affected different social groups in different measures, we were also investigating if there were any changes in the differences of the life quality of the individuals belonging to different social categories. We would like to argue that given the fact that the overall research was aiming to analyze the effects of the crisis as a negative external event, but the scope of this study is limited and it did not touch upon the changes in the multidimensional indicators measuring subjective life quality after 2013. The individual well-being is a multidimensional concept, nowadays researching this social phenomena take an interdisciplinary approach in the waste of the literature. We would like to note that, despite the fact that some psychological literature is cited for affective indicators, the present paper did not aim to analyze the psychological well-being (Ryff, 1989;

Ryff-Keyes, 1995), nor the state of mind of the Hungarian population (Kopp, 2008). Furthermore, multidimensional measuring instruments, which were developed based on the World Health Organization's statistical classification of mental and behavioral disorders, are also ignored (Harrison et al., 2016 based on Huppert-So, 2009). After the introduction, a brief overview of preliminary research will be presented, followed by the data and methods' description. Then the empirical results will be discussed, and finally, a short summary and additional research directions will be outlined to conclude this paper.

The theoretical frame of this research is based on the early welfare theory of Eric Allardt (1973, 1976). Accordingly, welfare is essentially defined by the materialistic-, social- and personal growth needs, based on Maslow's basic needs theory, known as the "Having-Loving-Being" model. Later on, the author worked out his simplified concept (Allardt, 1993), in which the subjective life quality was conveyed by satisfaction indicators about objectively measurable quantitative indicators of the main welfare dimensions. Welfare and well-being are two different concepts and they are appropriately distinguished in the literature. Accordingly, the welfare depends on the economic development, income conditions, educational level, and of course on other needs, goods and public services (Stewart, 1996). Furthermore, the quality of societies is also determined by the improvement of quality of life and individual well-being, measured by the individual perceptions of life circumstances (Spéder, 2000; Utasi, 2002; Diener; 2006), additionally „quality of life contains more global evaluations of life position and perspectives, and well-being contains more domain-specific perspectives" (Sirgy et al. 2006:401).

For our research we constructed a multidimensional subjective life quality index, which consisted of the subjective indicators of the "Having-Loving-Being" dimensions, as well as the long- and short-term emotional indicators sporadically found in the earlier Allardt model. The multidimensional indicator has been developed along with respect to traditions of Allardt's sociology, which keeps the most important dimensions of welfare: having-loving-being, and also gathers the scattered emotional elements: „feelings of well-being" (Allardt, 1973:8) into two dimensions. By defining our model on that way, we held in high regards the Scandinavian way of rebuilding of the Allardt's model (Hirvilammi-Helne, 2014), where the three main dimensions remained unchanged and were completed with a fourth (Doing) as one of the Beings category highlighted and detailed in accordance with the authors' research concept. Whereas, the affective in-

dicators, represent the emotional side of subjective well-being (Diener, 1984). Diener's theory was used to confirm our new conception, accordingly, the affective subjective well-being consists of the following elements: global happiness, short-term positive affects and the lack of negative temporary emotions.

The set-point theory is used in the research area of subjective well-being. It originates from the dynamic equilibrium model, and was developed based on the findings of developed countries' household panel data analysis, but seemed to lose importance after the past 30 years due to lack of new empirical facts and theoretical approaches (Headey, 2008, 2010; Headey et al., 2014). In the wake of the economic crisis this theory found itself in the center of the research again, as the main explanatory concept of contradictory findings of the empirical works, as we will return to talk about this again in the summary of our results. According the definition of this concept, every person can be characterized by an average subjective well-being value during its lifetime, determined by his/her social, material and cultural backgrounds. This average individual value is influenced by external positive or negative events that could happen as the consequence of macro processes (becoming unemployed), and that of individual life events (marriage, childbirth, divorce, widowhood). As a result of these events, the average value of well-being may deviate in some direction and extent, which, with time, returns to the typical value of the so-called set-point range of the individual, because of adaptation.

When analyzing the impact of the crisis on well-being, many studies have called this theory as a basis for interpretation, according to Cummins and co-authors (2014a). According to their research results, the effects of the recession did not manifest in significant deviation among the Australian population in life satisfaction, measured by 10 points scale, and analyzing 10 years household panel data from HILDA surveys, starting from 2001. The differences in well-being level had been moved only within the set-point range of the population thanks to the resilience of people. This notion incorporated external and internal resources, such as income, family and friendships, and optimist attitude, along with other factors, increasing problem solving ability of individuals, recovering from hardship, and their adaptation to adverse changes. The set-point range was defined by a recoded satisfaction scale from 10 to 100 points. People between 70-50 points showed divergence, but they could handle the adverse effects between their set-point range. In case of the others, above 70, and also under 50, there was no detectable deviation. It may have happened

due to not only the personal resilience, but also the market-conform crisis management, as seen in the case of non-transitional European countries (Bjørnskov et al., 2014). Bjørnskov and co-authors explained the differences among countries by the institutional way of the crisis management through analyzing data from the Fraser Institute and the EuroBarometer surveys. While the well-being loss in times of crisis was more effectively minimized and reached overall smaller decline in peoples' well-being when the governmental policies to strengthen the economy were characterized by liberal or market-conform decisions, in contrast, the central directives were followed by a greater decrease of population's well-being after the recovery period. As others also stated among European countries - based on the ESS surveys between 2002 and 2010 -, there was a detectable decline in peoples' well-being during the years of the crisis. While the composite indicator of averaged life satisfaction and happiness showed greater decrease in transition countries, where the change of social trust played a determinant role, and the GDP per capita played less in shaping well-being. The opposite explanation could be concluded in non-transitional countries on lower degree of dissatisfaction (Helliwell et al. 2014). Others also have found weak association between the changing GDP and happiness after the crisis (Greve, 2012). Based on ESS data (2002-2014) grouping the pooled sample by the main elements of the socioeconomic-status: income, education and occupation, researchers found that these subgroups of the total population did not show any significant associations with life satisfaction for one, two or three years after the crisis in most categories. There were two exceptions: the highest educational level and an occupation subgroup (lower-grade service class) both with negative effects. However the unemployment status in each set showed continuously strong negative significant association with well-being all three years (Clench-Aas&Holte, 2017).

As it can be known from preliminary researches, the social capital played a positive role in shaping of well-being (Lengyel-Janky, 2003; Utasi, 2008; Liam-Oswald, 2010). Examining the effects of the crisis of 2007-2008 in the USA based on Current Population Surveys 2004-2008, and Gallup daily surveys 2008, Helliwell and co-authors (2014) verified, that social capital curbed the negative effects of the recession on the subjective well-being. The results showed that in the metropolitan areas where the combined social capital index was higher, the negative effects of the unemployment on lowering the subjective well-being were less prevalent. As the latest findings verified in case of Iceland, testing it by cross-sectional data pooled from 2000, 2006, 2009, 2010 ESS waves, more emo-

tional support and growing spent time with parents were significantly associated with higher happiness even in the time of crisis (Gudmundsdottir et al., 2016). Also with a quick adaptation and strong solidarity shown by Icelandic residents right after the crash (Gudmundsdottir, 2013).

Although, the presented preliminary research works of recession embedded in different theoretical conceptions were rich in explanatory variables, but well-being was measured in most cases only with a single item indicator, and additionally tested by subgroups along with the main structural factors. Notwithstanding, it is verified, a single item indicator is less reliable than a multidimensional one for measuring well-being (Diener&Biswas-Diener, 2000; Lim, 2007). Therefore, the question remains, if a multi-dimensional indicator is used, what are the results if we analyze cross-sectional data in case of Hungary, and also if we analyze the data grouping by not only socioeconomic indicators but subjective indicators too. Furthermore, most panel or cross-sectional research study used multivariate or multivariable analysis examining the main or the long-lasting effects on well-being. In contrast, based on pooled cross-sectional data, we compared the post-crisis period to a pre-crisis one using the standard diff-in-diff method, which was rarely employed in the literature.

## 2. Data and methods

The cross-sectional data used in the study comes from the European Social Survey (ESS). For our empirical analysis we used the data on the rotation modules about “Personal and social well-being” from the 3rd and 6th waves. The data collection was conducted by the Hungarian Gallup Institute between November 21, 2006 and January 28, 2007 (N=1518), and by Social Research Institute (TARKI) between November 11, 2012 and February 17, 2013 (N=2014). The hypotheses of the research were tested by using the standard method of difference in differences (DID) on pooled cross-sectional data (Buckley-Shang, 2003; National Bureau of Economic Research, 2007). The data was weighted according the ESS documentation guidelines. Analysis with multivariate data were done using the ordinary least squares method. When analyzing the results we looked at the unstandardized regression beta coefficients instead of the standardized ones, which means we used the original unit of the variable to express the average change in the dependent variable caused by a one unit change in the explanatory variable (Moksony, 2006). In case of the dichotomous explanatory variables this will express the deviation, which is the difference between the differences estimated before the crisis (2006=0) compared to the difference estimated after the crisis (2012=1).

The following regression equation is used on subjective life quality:

$$\hat{Y} = \beta_0 + \beta_1 * \text{Year} + \beta_2 * X_1 + \beta_3 * (\text{Year} * X_1) + e;$$

where  $\beta_1$ = effects of the year 2012;  $\beta_2$ = life quality of married people compared to unmarried people,  $\beta_3$ = effect of years of crisis on married people's life quality. The difference-in-differences estimation is the interaction member's unstandardized beta value ( $\beta_3$ ) expressed as follows:

$$\beta_3 = (\bar{y}_{\text{married}2012} - \bar{y}_{\text{married}2006}) - (\bar{y}_{\text{unmarried}2012} - \bar{y}_{\text{unmarried}2006}).$$

Based on the literature cited above in this line the Y is the output variable and its  $\hat{Y}$  value is estimated with the explanatory variables in this model. On the right of the line » $\beta_0$ « is the constant in this regression equation (it is the mean value of the dependent variable when the explanatory variable equals 0); »Year« is the time of data collection; » $\beta_1$ « is the effect of the year; » $X_1$ « is the estimate on the individual parameter of the explanatory variable; » $\beta_2$ « is the effect of the explanatory variable; »Year\* $X_1$ « is the interaction product; » $\beta_3$ « is the effect of the crisis years on the explana-

tory variables, »« is the residuum. The empirical findings should be treated with constraints because of the effects of not measurable factors and especially the impact of the year 2010. We would like to emphasize that the present study will not aim to analyze the direction of causation between variables. Thus, the chosen statistical methods will shed light only on correlations, as well as the direction, strength and significance of the co-occurrences of variables.

### **3. Results of the empirical study**

#### **DESCRIPTIVE FINDINGS**

After examining the descriptive statistics, in the case of the five major variables of the subjective life quality we concluded the following: by 2012, people in paid work were usually satisfied, happy and self-fulfilled, felt supported and had a positive emotional balance, but with a weak significance level. In case of married people (lived in partnership) we found the same results, with one exception, the significance disappeared in case of the life satisfaction. Regarding income adequacy after the crisis, those who get by with the present income typically were happy, self-fulfilled, having positive emotional balance. People who gave bad or very bad subjective health rating in 2012 are usually dissatisfied, unhappy and live with negative emotional balance. The correlations were moderately strong in these cases. Those who did not feel safe usually were dissatisfied, unhappy and emotionally unbalanced, with weak correlations. Those who scored higher on the scale of anomie and alienation, usually had negative emotional balance. Optimists are typically satisfied, happy, self-fulfilled people, and showed positive emotional balance. In case of the two latest indicators we found moderately strong correlations with the mentioned outcome variables (Ivony, 2017).

#### **TESTING THE HYPOTHESES OF THE RESEARCH**

To test our hypotheses we created a summative subjective life quality scale with the presented five subscales (having, loving, being, happiness, positive-negative balance). On the summative scale of 0 to 36 the higher value represented a favorable subjective life quality [scale's statistics as follows: Chr. A.: 2006: 0,768; 2012: 0,781, and the pooled mean: 21,22; st. dev.: 6.79 (N=3356)]. The regression analyses conducted on the pooled cross-sectional data. The results show that the subjective life quality of the population has somewhat declined on an average by 2012, when compared to before crisis. Our question is however: is this supported by social and demographical factors? The findings of the next analysis show that when keeping the social-demographical factors the same (age, sex, level of education, level of income, settlement type) the subjective life quality does not differ significantly when the two periods were compared. This leads us to reject the hypothesis; thus the assumed adverse effects of the crisis - as a period effect - on subjective life quality did not prevail by 2012. Turning to the determining social factors of the quality of life, first we examine the

hypotheses of social integration. Hungarian demographic processes show that starting from the 1980s to present days there is a continuous decline in the ratio of marriages along the line of the characteristics on the family status of 15 years of age or older and in parallel to this, the ratio of single people has continuously risen. Data shows that among the adult population in 2006, 48.7%, and in 2012, 44.1% were married, and this explains the deviation in distribution between the two samples from these two years. When examining the presence on labor market the distribution of not-working individuals for these two years is as follows: student: 2006: 7.6, 2012: 8.5%; unemployed: 4.7, 8.2; permanently sick/disabled: 3.9, 3.4; retired: 28.4, 26.4; homemaker/others: 10.0, 6.7. Along the dichotomous variables, the distribution of workers was almost the same in both samples (2006: 45.4, 2012: 46.5%).

The results of the further analysis show that all explanatory variables determine the level of life quality, except one indicator. While marital status (partnership), perception of income situation, good subjective general health, feeling of safety, and optimism had a positive association with the output variable, and the feeling of anomie and alienation had a negative one. At the same time the presence on the labor market was not significant in this model. The details show, in case of married people, the explanatory and the time-dummy variable are significant, but the interaction-tag is not. We can only state that married people reached a favorable subjective life quality than unmarried counterparts, and the life quality difference between two subgroups did not change significantly for 2012. In case of presence on the labor market it is the explanatory variable which is not significant with negative value, but after the crisis there is a significant increase in the group differences, presented by the positive interaction tag. This predicts that the more favorable life quality of the workers compared with non-workers fell by 2012 parallel with distancing groups, but regarding non-significant result, it has remained unproved. In consequence, the results did not support neither the hypotheses No.2.a. and No.2.b. Furthermore we can state that in 2012 the score on subjective life quality index on average was higher among those who get by with the present income compared to those for whom it was difficult or very difficult, but its interaction-tag is not significant. For this reason hypothesis No.3.a. on subjective income situation was not supported by the data. On the life quality index, the population in good health, scored on an average 3.975 index-point higher, than those, who felt that their overall subjective health is bad or very bad. In addition to this, the differences between the mean values of these two groups did not show significant deviation. For this reason hy-

pothesis No.3.b. did not get confirmation. Now, talking about the role of safety, we found that those who felt safe in their neighborhood gave a better evaluation to their well-being compared to those who reported not feeling safe. But the interaction-tag with negative value did not show significant result, therefore the tests did not support hypothesis No.3.c. either. Consequently, our anticipation on the unfavorable life quality of the vulnerable groups affected more by the negative emotional effect of the crisis for 2012 has not been proved by hypothesis 3. When it comes to personal trait, the outcome was different, as all three of the variables remained significant. It is evident that the optimistic population scored on an average 3.406 point more favorable on the subjective life quality index compared to pessimists. Based on the regression equation, the 1.623 unit point value can be accounted for as the effect of the years of recovery, which indicate the divergence of the groups. The data here supported our hypothesis No. 4. Finally, our test verified the general negative association between well-being and individual anomie and alienation which is not surprising based on the literature (Spéder-Kapitány, 2002). Additionally, the difference between the averaged values of the anomie and alienation scales of the two years was significant, consequently the data verified that the spread of anomie accelerated and the feeling of alienation also increased among Hungarian citizens during the years of the economic crisis.

## **INTEGRATED MODELS**

The subjective life quality of the population is determined by all the variables involved in the models above, with the exception of presence of the labor market. In order to examine the individual role of each explanatory variables we have to take into consideration all of the variables in one integrated model (Table 1.). The main findings show that all explanatory variables were significantly associated with multidimensional subjective life quality in the integrated models, which essentially did not lead to different results, other than what we have already discussed, except for the presence on the labor market, which become significant here. Presumably in the integrated model, the combined effects could have changed the role of the labor market presence. We can however claim, that on the level of the social and demographic sections chosen for this study, the overall life quality of the different social groups was not measurably influenced by the effects of the crisis in 2012 compared to the earlier period of 2006, because it is apparent that the time-dummy variable and the interaction members of the variables are not significant, except for two cases: workers and optimists. In the first case, people who were present on the labor market reached a

lower average level of life quality than those who were not present and the difference in differences of their averaged life quality significantly grew by 2012. Additionally, this happened for the disadvantage of both groups, which indicates a downward shifting with divergence. The average life quality of the optimists become much more favorable than that of the pessimists, and the differences among these groups also grew and led to their distancing, not forgetting the impact of the year 2010, which we cannot deduct here.

*Notes of Table 1.: standard errors are in parentheses. Reference categories: Year: 2006, not married, not working, not getting by with present income, bad subjective health, lacking safety, pessimist. Control variables are: sex, age, type of settlement, level of education, monthly net household income per person . Missing cases: listwise. Significance levels: \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$*

Table 1. Integrated regression models on subjective life quality, pooled cross-sectional data, OLS (unstandardized beta parameters, significance levels)

	<b>modell I.</b>	<b>modell II.</b>
Year: 2012	0,474 (1,033)	0,615 (1,173)
<b>Married</b>	0,270 (0,270)	<b>0,640** (0,314)</b>
Inter (married)	-0,250 (0,354)	0,007 (0,412)
<b>Working</b>	<b>-0,476* (0,270)</b>	<b>-0,633* (0,338)</b>
Inter (working)	0,353 (0,360)	<b>0,711* (0,414)</b>
<b>Getting by with present income</b>	<b>2,794*** (0,279)</b>	<b>2,367*** (0,319)</b>
Inter (getting by)	0,029 (0,369)	-0,080 (0,420)
<b>Good subjective general health</b>	<b>2,635*** (0,392)</b>	<b>2,316*** (0,429)</b>
Inter (health)	0,035 (0,534)	-0,089 (0,597)
<b>Feeling safety</b>	<b>0,877*** (0,320)</b>	<b>1,045*** (0,360)</b>
Inter (safety)	-0,559 (0,410)	-0,646 (0,469)
<b>Optimist</b>	<b>1,939*** (0,270)</b>	<b>1,625*** (0,301)</b>
Inter (optimist)	<b>0,781** (0,364)</b>	<b>0,977** (0,414)</b>
<b>Anomie- and alienation Scale</b>	<b>-1,160*** (0,053)</b>	<b>-1,109*** (0,058)</b>
Inter (anomie)	-0,046 (0,069)	-0,057 (0,079)
<i>Controll variables</i>	<i>no</i>	<i>yes</i>
<b>Constans</b>	27,002*** (0,783)	27,541*** (0,920)
<b>N</b>	<b>3133</b>	<b>2404</b>
<b>Adjusted R<sup>2</sup></b>	<b>0,510</b>	<b>0,496</b>

## 4. Summary of conclusions

This paper aimed to investigate the changes in the subjective life quality of the Hungarian population and also of the different social-demographic groups after the recession. We studied whether these changes occurred due to the impact of the crisis, and also whether the average subjective life quality of the population has declined by 2012. We analyzed pooled cross-sectional data by using the difference-in-differences (DID) method. Taking into account the set-point theory and the adaptation of the population that prevailed during this period, the results may not be surprising. But before summerizing our findings, we have to recall the adverse socio-economic processes, which characterized before the crisis period (rising unemployment, growing indebtedness of the population, using up savings, decreasing social transfers) and in addition, a declining tendency in subjective well-being has been apparent from 2004. This might help in explaining the results, on which we can say that after the crisis, the recovery period in 2012 did not show significant differences compared to the declining trends of 2006. Consequently the differences between the peoples' subjective perceptions and evaluations on global situation of their life according to the chosen social categories based on the most potential predictors, did not show significant differences compared to the pre-crisis period, except of workers and optimists for the above mentioned reasons.

Altogether, our paper served new supporting findings to the set-point theory (Headey et al, 2014, Cummins, 2014b), and confirmed some already known association between life quality and social factors, such as the weaker role of demographic factors in determining well-being, and the major role of subjective health, income adequacy and level of individual anomie and alienation (Spéder-Kapitány, 2002; Graham et al., 2010; Henk-Wagner, 2016), as well as the major role of personal traits (Wrosch-Scheier, 2003; Graham et al., 2010). Finally, accounting the effect of the year of 2010 can be a new research goal, to examining the real life quality differences among different social groups employing the difference-in-difference-in-differences (DDD) method, and also with selecting a new benchmarking period before the crisis.

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## 6. Publications

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