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EVALUATION OF RESILIENCE IMPACT ON SOCIO-ECONOMIC INEQUALITY*

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Abstract. This paper presents a new approach according to which the issue of socio-economic inequality is addressed not by applying social or fiscal policy measures, but by strengthening societal psychological resilience: by shaping a society characterized by a high level of social culture and education, by fostering a society in which individuals are resistant to life difficulties. In this paper, we pursue the aim of demonstrating the socio-economic vulnerability factors, the importance of strengthening resilience and reduction of socio-economic inequality, by analyzing data of a survey which was conducted in 2016 (representative sample, n=1001). The research results have demonstrated statistically significant differences of resilience in different income quintiles' groups and resilience in different subjective socio-economic status groups and have revealed statistically significant differences in reaction to life difficulties in different income quintiles' groups and in different subjective social economic status groups.

Keywords: socio-economic inequality, vulnerability, vulnerable social groups, resilience, hardiness, household income, subjective socio-economic stratification, Lithuania

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JEL Classifications: D63; D31; A14; Z13

1. Introduction

The UNDP stresses that real progress on human development is not only a matter of enlarging people's critical choices and their ability to be educated, be healthy, have a reasonable standard of living and feel safe. It is also a matter of how sustainable these achievements are and whether conditions are sufficient for sustained human development. An account of progress in human development is incomplete without exploring and assessing vulnerability (Human Development Report, 2014). In recent years, a number of researchers have discussed the impact of societal psychological resilience on socio-economic inequality and quality of life. "We have to think of inequality not as a moral issue, but as an economic challenge, closely linked, firstly, to economic growth and, secondly, to the increase of vulnerability" (Stiglitz 2012). Many researchers have analyzed the issues of vulnerability and resilience and proposed assessment methodologies and comparative analyses by various

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composite indicators. The question is, why some individuals are more resilient to life's difficulties and achieve more than others? The main point here is individual endurance, the ability to withstand the trials of life, which ensures sound choices, stability, both now and in future, and allows better coping with difficulties and adapting to them. The surveys conducted in 2014-2016 at Mykolas Romeris University show that in recent years, the largest concern for more than 80.0% of the Lithuanian population has been the threat of an increase in individual vulnerability (unemployment, fall in the standards of living, threat of income loss). Vulnerable social groups comprise children, the youth, the elderly, females, the disabled. Various other social groups may be vulnerable too – the poor, individuals exposed to social exclusion, migrants etc. The insecurity of these groups as a structural issue is increasing and extends over a long term, which further exacerbates their inequality in respect of employment, social status, income, and standards of living. It is not easy for vulnerable groups to overcome all these obstacles. Although Lithuanian researchers have suggested resolving the issue of vulnerable groups through active employment and social policy measures, there is a lack of research on strengthening resilience. Therefore, in order to determine the most effective ways of reducing socio-economic inequality by increasing psychological resilience, vulnerability and resilience as objects of research require more in-depth analysis.

2. Theoretical aspects of socio-economic vulnerability and resilience

The concept of *social vulnerability* began to be used primarily in the context of natural hazards and disasters (e.g., floods, earthquakes), hence it is common that this concept is often used in risk management literature (Alwang, Siegel, etc., 2001; Conway, Norton, 2002). However, social vulnerability has recently been understood as a current condition that describes individual (public) social conditions and the ability to recover after facing life challenges.

According to researchers, the concept of social vulnerability emphasizes two central aspects:

1. both the causes and the phenomenon of a disaster are defined by social processes and structures. Thus, it is not only a geo- or biophysical hazard, but rather the social context that is taken into account to understand 'natural' disasters (Hewitt 1983);
2. although different groups of a society may share a similar exposure to a natural hazard, the hazard has varying consequences for these groups, since they have diverging capacities and abilities to handle the impact of the hazard (Gulf Writing Services, 2016).

Social vulnerability is partially the product of social inequalities – those social factors that influence or shape the susceptibility of various groups to harm and that also govern their ability to respond (Cutter *et al*., 2003). It is important to note that social vulnerability is not registered by exposure to hazards alone, but also resides in the sensitivity and resilience of the system to prepare, cope and recover from such hazards (Turner *et al*., 2003). Another concept encountered in scientific literature is *economic vulnerability*, which is defined as "the exposure of an economy to exogenous shocks, arising out of economic openness, while economic resilience is defined as the policy-induced ability of an economy to withstand or recover from the effects of such shocks" (Briguglio, Cordina, etc, 2008). In this article, the authors perceive vulnerability in a broader sense – as a potential risk, faced by certain social groups or communities, of failures, stressful situations, economic difficulties, natural disasters, climate change, and military conflicts, which are collectively referred to as *socio-economic vulnerability*.

Vulnerability is often understood as the counterpart of *resilience*. The theory of resilience emerged from clinical psychology, representatives of which worked with the juveniles who successfully established themselves despite the serious troubles and difficulties of life experienced by them (Masten, 2001, cit. Luthans *et al*., 2008). *Resilience (hardiness)* shows the ability of a personality to cope with a stressful situation, while maintaining internal balance and continuing successful activity. The problem, raised by psychologists, of an individual's ability to cope with stress, diseases, increase of productivity, and improvement of the quality of life at work grew into an entire theory of resilience and the concept models which are widely used worldwide. Human resilience to

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life's difficulties means ensuring of choices now and in the future, which allows to better cope with adverse life events and to better adapt to them. From the psychological point of view, resilience to life's difficulties is a system of a person's attitudes and beliefs about himself, the world and the relationship with the world. This is a certain inner courage that enables the person to be less dependent on circumstances. This feature helps a person to cope with anxiety, fear, and threats and helps to take the right decision.

In its most general sense, resilience to life's difficulties means a fast and effective recovery from a situation causing severe stress (Luthans, Avey, Clapp-Smith, Li, 2008), constructive behavior under significant unfavorable circumstances (Masten, Obradovič, 2006), "a positive psychological ability to recover from a difficult situation, insecurity, conflict, failure or increased responsibility" (Luthans, 2002, cit. Luthans *et al*., 2008). The individuals characterized by resilience possess the following features: conscious acceptance of reality; a deep belief that life is meaningful; this belief is often based on a firm value system; a strongly expressed ability to flexibly adapt to significant changes in life and to overcome life's challenges and difficulties, including economic ones.
Resilience is relatively variable and can be strengthened. A few decades ago, it was believed that resilience is a rare feature, but now it is recognized that it is a psychological ability that all individuals possess and can be developed. In other words, every person has the potential for resilience, but it is actual possibilities of the individuals to make use of this resource during a negative stress or an emergency that differ (Luthans, Avey, Clapp-Smith, Li, 2008). It is interesting that there is evidence that, once activated, the power of resilience not only allows an individual to recover from a particular event which affects him, but also to operate even more successfully than in the previous equilibrium, for example, if a negative event occurs at a workplace, a worker possessing this feature returns to a higher motivation level (Luthans, Avey, Clapp-Smith, Li, 2008). As early as in 1987, Maddi found that hardy and fast recovering employees of an organization which went through mass job cuts retained better health and happiness and maintained the previous level of performance (Luthans *et al*., 2007). Another study showed that the resilience of a Chinese factory's workers involved in major organizational changes was associated with the performance appreciated by their managers (Luthans *et al*., 2005). To sum up, resilience is a potentially developed and enhanced positive psychological construct, an adaptive system enabling an individual to quickly recover from a significant adverse event experienced by him; resilience is associated with satisfaction with life, happiness, and commitment (Yossef, Luthans, 2007). Resilience by Salvatore Maddi is a system of an attitude towards oneself and the world and relationships with the world that reduces (alleviates) internal tension in stressful situations and promotes coping with stress.

Resilience to life's difficulties is the ability to eliminate the obstacles that prevent a person from functioning freely, taking part in the creation of his life, his destiny. Its promotion means increasing choices, building competence and capacities, and strengthening psychological traits, which the authors emphasize as one of the potential ways of reducing social and economic inequality. According to the UNDP report, "vulnerability threatens human development – and unless it is systematically addressed, by changing policies and social norms, progress will be neither equitable nor sustainable" (Human Development Report, 2014). Thus, the authors believe that the issue of socio-economic vulnerability must be addressed not only by means of traditional social or taxation policies, but also by investing in science and education, strengthening human and societal resilience to life's difficulties, creating an educated and solidarity-based society, thus reducing social tension and inequality. The interaction of socio-economic vulnerability and resilience is described by means of the following groups of factors: 1) vulnerable social groups (who is vulnerable), 2) difficulties, hazards, threats (in what way the society or its social groups are vulnerable), and 3) risk of threats or reduction of their consequences through promotion of resilience to life's difficulties – public awareness raising and education, creation of a solidarity-based community, development of independent living skills, etc. (Figure 1).

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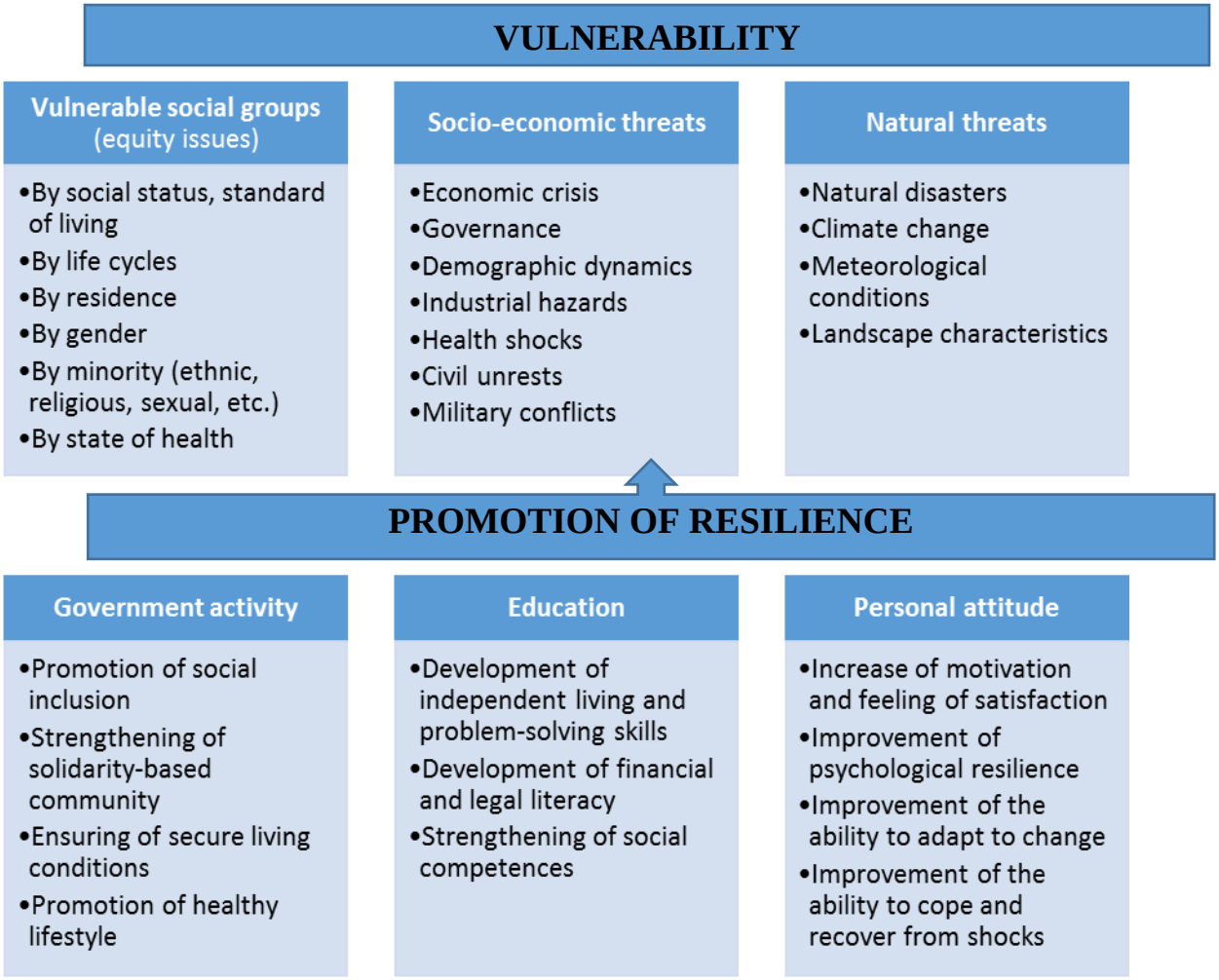


Figure 1. Vulnerability and resilience interaction
Source: developed by the authors, 2016

The chances of the population to overcome difficulties are also significantly increased by state economic policy, the approach of state authorities to the macroeconomic factors determining the well-being of the population, i.e., not only to employment, taxation and income distribution and social policy, but also to cultural and educational policy and the psychological factors affecting the socio-economic vulnerability of society through state economic policy.

3. Survey and sample characteristics

This study used a test design utilizing a heterogeneous random sample of 1001 persons representing the Lithuanian population. Object of the research: Lithuanian inhabitants aged 18 and over. Method of sampling: multi-stage random sampling. The respondents were personally interviewed at their home, the interview took approximately 1.5 hours. The Lithuanian sample was selected in a multi-scaled probabilistic way so that every

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inhabitant of Lithuania could have an equal chance to be interviewed. The survey was performed in 2016 and was conducted in 19 cities and 24 villages. K means that the analysis was applied to cluster the respondents into low, medium and high household net income groups.

4. Results

4.1. Level of vulnerability and resilience of the Lithuanian population

In performing a study of Lithuanian society, the authors sought to identify the key threats and factors that determine its vulnerability and to assess the psychological resilience of inhabitants and their ability to overcome difficulties by different subjective socio-economic stratification and income quintiles' groups.
The results of the survey show a high level of vulnerability of the Lithuanian population. Depending on risk factors, 30-60 per cent of the population experience anxiety caused by various fears and threats.

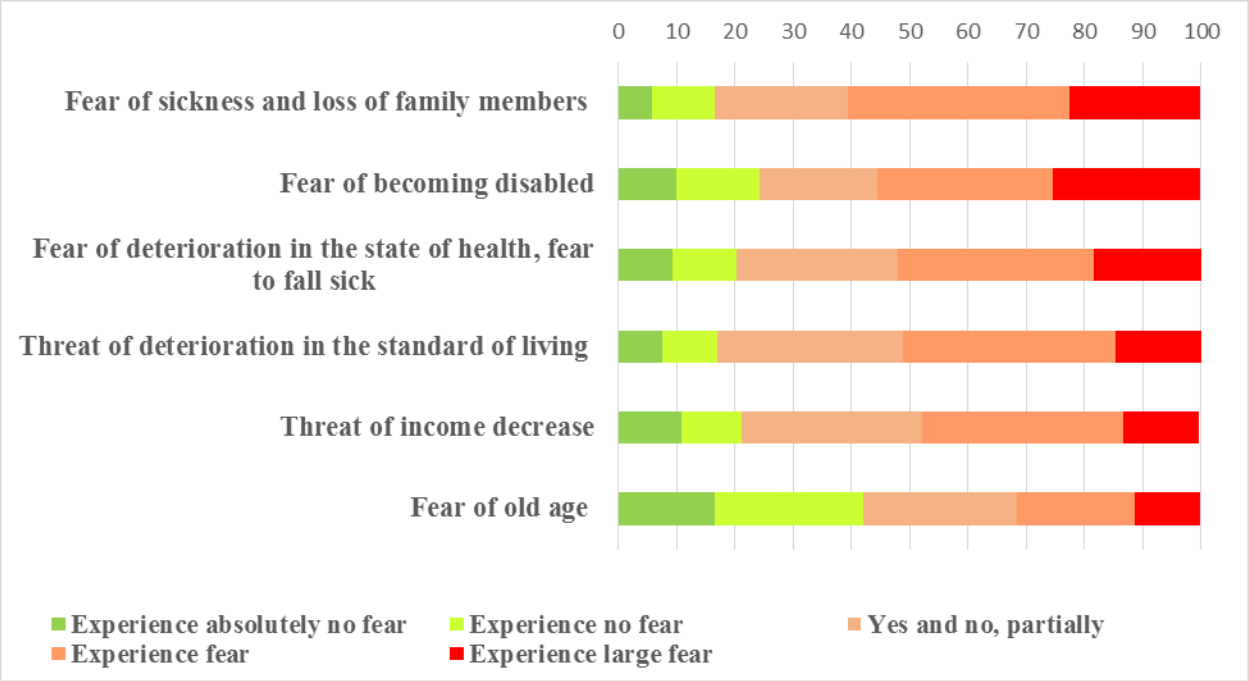


Figure 2. Vulnerability, per cent (N=1001, public opinion survey 2016)
Source: developed by the authors, 2016

The respondents perceive vulnerability as individuals' fear of sickness and disability, decline of income, losing job, deterioration in material well-being, fear of old age, of loneliness, and of emigration.
More than half of the population fear relatives' disease and loss (60.5 per cent), deterioration in the state of health and disease (52 per cent), developing disability (as much as 55.4 per cent of the respondents). This kind of anxiety can be explained also by the fear of becoming incapable of work, because the social benefits payable in Lithuania in the event of decrease in the level of capacity for work or the loss of such capacity are one the lowest in the EU, hence in the event of an emergency a person does not expect to receive any state aid.
The second group of threats comprises threats of deterioration in the standard of living, i.e., deterioration in material well-being and income decrease, the risk of poverty, which are faced by respectively 51.1 per cent, 47.6 per cent and 47.3 per cent of the population.

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Approximately half of the Lithuanian population fear deterioration in material well-being, approximately one-third of the inhabitants (31.2 per cent) are negatively affected by social injustice and socio-economic inequality. It should be noted that the fear of not finding a suitable job or losing it is characteristic of the majority of young people and partly – of middle-aged people, while the fear of emigration is experienced by 16.3 per cent of people. However, the majority of Lithuanian inhabitants consider the following as the biggest threats in the country increasing vulnerability: unemployment (83.8 per cent), ineffective economic policy (indicated by 82.3 per cent of the population), and poverty (81.7 per cent).

Responses of the respondents regarding resilience to life's difficulties show that over 60.0 per cent of the Lithuanian population respond to current difficulties calmly and without panic and try to do everything in their power: 63 per cent try to resolve problems calmly and step by step; 66.2 per cent do everything in their power and then leave events to chance; 69.7 per cent calmly respond to stress and gradually solve problems. Helplessness in overcoming difficulties of life is experienced by only about 20 per cent of the population: as little as 17.6 per cent of the population postpone resolution of problems and do not struggle; problems crush 20.7 per cent of the population and do not elicit their willingness to act. Moreover, approximately 42.3 per cent of the population view emerging life's difficulties as the challenges that must be overcome without fear by checking oneself, gaining experience and developing one's capacities.

4.2. Relationship between socio-economic inequality and psychological resilience

This study analyzed how socio-economic inequality is related to personal psychological resilience. The Subscale of Resilience, as part of the Psychological Capital (PsyCap) Scale constructed by F. Luthans (Luthans, 2007), was used for this study. The questionnaire included some additional statements based on literature review and previous research on resilience and its cognitive and emotional resources (Andres, Collings, Qin, 2010; Brown, Beck, Steer, & Grisham, 2000; Arria *et al*., 2009; Brown et al., 2000; Khan, Leventhal *et al*., 2002; Sareen, Cox, Afifi, de Graaf, Asmundson, *et al*., 2005; Have, de Graaf, van Dorsselaer, Verdurmen *et al*., 2009; Crump, Sundquist, Sundquist, Winkleby, 2013; Ishtiak-Ahmed, Perski, Mittendorfer-Rutz, 2013).
The results of the research have revealed statistically significant differences in resilience in different income quintiles' groups (H(2)= 137.710, p=0.000) (Table 1). Mean ranks in the lowest income quintile K1 were about two times lower than mean ranks in the highest income quintile K5.

Table 1. Resilience in different quintiles' groups: independent groups comparisons, F. Luthans resilience subscale, Kruskal-Wallis test (n=1001)

	Income quintiles	N	Mean ranks	H (2) Chi square	df	p
Resilience	K1	172	335.69	137.710	4	<0.001
	K2	199	428.98			
	K3	249	490.26			
	K4	194	593.88			
	K5	187	647.64			

The research results have also revealed statistically significant differences in resilience in different subjective socio-economic status groups (H(2)= 132.364, p=0.000). Mean ranks in subjectively the poorest group were almost three times lower than in subjectively the richest group of people (Table 2).

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Table 2. Resilience in different subjective socio-economic status groups: independent groups comparisons, F. Luthans resilience subscale, Kruskal-Wallis test (n=998)

	Subjective socio-economic status groups	N	Mean ranks	H (2) Chi square	df	p
Resilience	Subjectively rich enough	125	625.51	132.364	3	<0.001
	Middle level, but not always have enough money	552	554.37			
	Poor, sometimes cannot satisfy basic needs	276	374.87			
	Total poverty - subjectively the poorest	45	240.82			

This study also aimed at analyzing differences in reaction to life's difficulties in different income quintiles and different subjective socio-economic status groups. The research results (Table 3) have revealed statistically significant differences in reaction to life's difficulties in different income quintiles' groups. The lowest income quintile K1 demonstrated the highest mean ranks in the following reactions: "life problems and challenges are perceived as paralyzing will and initiative" (H(2)= 58.956, p=0.000), "extremely sensitive and stressful reaction to life problems and challenges" (H(2)= 38.452, p=0.000), "procrastination of problem solving, belief that the life will solve the problems somehow" (H(2)= 25.641, p=0.000). On the contrary, the highest income quintile K5 demonstrated absolutely different reactions: "moderate stress to life challenges and balanced step by step approach to problem solving" (H(2)= 75.036, p=0.000), "mindful personal efforts and acceptance of whatever life could bring" (H(2)= 31.618, p=0.000), "problems are perceived as life challenges which might inspire personal growth" (H(2)= 39.441, p=0.000), "life problems and difficulties are perceived as stimulating initiative, activity, 'fighting' to win" (H(2)= 13.904, p=0.000).

Table 3. Reactions to life difficulties in different quintiles' groups: independent groups comparisons, Kruskal-Wallis test (n=1001)

Reaction to life difficulties	**Income quintiles**	**N**	**Mean ranks**	**H (2) Chi square**	**df**	**p**
Life problems and challenges are perceived as paralyzing will and initiative	K1	172	591.79	58.956	4	<0.001
	K2	199	520.90			
	K3	249	533.13			
	K4	194	470.10			
	K5	187	385.59			
Extremely sensitive and stressful reaction to life problems and challenges	K1	172	561.95	38.452	4	<0.001
	K2	199	510.78			
	K3	249	537.03			
	K4	194	486.90			
	K5	187	401.18			
Moderate stress to life challenges and balanced step by step approach to problem solving	K1	172	380.72	75.036	4	<0.001
	K2	199	460.61			
	K3	249	498.69			
	K4	194	573.21			

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	K5	187	582.78			

Constructive coping, mobilization of resources and problem solving	K1	172	393.02	58.012	4	<0.001
	K2	199	464.87			
	K3	249	508.26			
	K4	194	561.53			
	K5	187	566.29			
Mindful personal efforts and acceptance of whatever life could bring	K1	172	414.18	31.618	4	<0.001
	K2	199	475.78			
	K3	249	522.33			
	K4	194	541.99			
	K5	187	536.76			
Procrastination of problem solving, belief that the life will solve the problems somehow	K1	172	564.91	25.641	4	<0.001
	K2	199	521.81			
	K3	249	511.34			
	K4	194	479.55			
	K5	187	428.57			
Problems are perceived as life challenges which might inspire personal growth	K1	172	426.78	39.441	4	<0.001
	K2	199	469.46			
	K3	249	490.18			
	K4	194	523.37			
	K5	187	594.03			
Life problems and difficulties are perceived as stimulating initiative, activity, 'fighting' to win	K1	172	466.25	13.904	4	0.008
	K2	199	472.85			
	K3	249	493.95			
	K4	194	512.94			
	K5	187	559.92			

The research results have also revealed statistically significant differences in reaction to life difficulties in different subjective social economic status groups (Table 4). Mean ranks in subjectively the poorest group of individuals were significantly higher for the following reactions: "life problems and challenges are perceived as paralyzing will and initiative" (H(2)= 75.350, p=0.000), "extremely sensitive and stressful reaction to life problems and challenges" (H(2)= 50.134, p=0.000), "procrastination of problem solving, belief that the life will solve the problems somehow" (H(2)= 32.861, p=0.000). On the contrary, subjectively richer individuals reacted differently: "moderate stress to life challenges and balanced step by step approach to problem solving" (H(2)= 41.724, p=0.000), "constructive coping, mobilization of resources and problem solving" (H(2)= 38.524, p=0.000), "problems are perceived as life challenges which might inspire personal growth" (H(2)= 26.466, p=0.000), "life problems and difficulties are perceived as stimulating initiative, activity, 'fighting' to win" (H(2)= 33.522, p=0.000).

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Table 4. Reactions to life difficulties in different subjective socio-economic status groups: independent groups comparisons, Kruskal-Wallis test, (n=998)

Reaction to life difficulties	Subjective socio-economic status groups	N	Mean ranks	Chi square	df	p
Life problems and challenges are perceived as paralyzing will and initiative	Subjectively rich enough	125	405.02	75.350	3	<0.001
	Middle level, but not always have enough money	552	461.23			
	Poor, sometimes cannot satisfy basic needs	276	589.24			
	Total poverty – subjectively the poorest	45	680.94			
Extremely sensitive and stressful reaction to life problems and challenges	Subjectively rich enough	125	411.58	50.134	3	<0.001
	Middle level, but not always have enough money	552	477.65			
	Poor, sometimes cannot satisfy basic needs	276	550.54			
	Total poverty - subjectively the poorest	45	698.72			
Moderate stress to life challenges and balanced step-by-step approach to problem solving	Subjectively rich enough	125	561.35	41.724	3	<0.001
	Middle level, but not always have enough money	552	523.46			
	Poor, sometimes cannot satisfy basic needs	276	452.21			
	Total poverty – subjectively the poorest	45	323.78			
Constructive coping, mobilization of resources and problem solving	Subjectively rich enough	125	548.97	38.524	3	<0.001
	Middle level, but not always have enough money	552	524.23			
	Poor, sometimes cannot satisfy basic needs	276	455.56			
	Total poverty – subjectively the poorest	45	328.23			
Mindful personal efforts and acceptance of whatever life could bring	Subjectively rich enough	125	470.48	3.680	3	.298
	Middle level, but not always have enough money	552	512.06			
	Poor, sometimes cannot satisfy basic needs	276	492.10			
	Total poverty – subjectively the poorest	45	471.43			
Procrastination of problem solving, belief that the life will solve the problems somehow	Subjectively rich enough	125	424.30	32.861	3	<0.001
	Middle level, but not always have enough money	552	477.77			
	Poor, sometimes cannot satisfy basic needs	276	568.08			
	Total poverty – subjectively the poorest	45	554.32			
Problems are perceived as life challenges which might inspire personal growth	Subjectively rich enough	125	554.21	26.466	3	<0.001
	Middle level, but not always have enough money	552	520.84			
	Poor, sometimes cannot satisfy basic needs	276	452.12			
	Total poverty – subjectively the poorest	45	376.36			
Life problems and difficulties are perceived as stimulating initiative, activity, 'fighting' to win	Subjectively rich enough	125	528.58	33.522	3	<0.001
	Middle level, but not always have enough money	552	523.06			
	Poor, sometimes cannot satisfy basic needs	276	472.89			
	Total poverty – subjectively the poorest	45	292.94			

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Conclusions:

1. Research results have revealed significant subjective vulnerability of the Lithuanian population: vulnerability is perceived as individuals' fear of sickness and disability, decline of income, losing job, deterioration in material well-being, fear of old age, of loneliness, and of emigration. More than half of the population fear relatives' disease and loss (60.5 per cent), deterioration in the state of health and disease (52 per cent), developing disability (as much as 55.4 per cent of the respondents). Approximately half of the Lithuanian population fear deterioration in material well-being, approximately one-third of the inhabitants (31.2 per cent) are negatively affected by social injustice and socio-economic inequality. However, considering characteristics of the country's population according to the criteria of resilience to life's difficulties as specified by US psychologist Salvatore Maddi, the resilience of the inhabitants to life's difficulties is nonetheless relatively high.
2. The research has revealed statistically significant differences in resilience in different income quintiles' groups. Mean ranks in the lowest income quintile K1 were about two times lower than mean ranks in the highest income quintile K5.
3. The research results have demonstrated statistically significant differences in resilience in different subjective socio-economic status groups. Mean ranks in subjectively the poorest group were almost three times lower than in subjectively the richest group.
4. The research results have revealed statistically significant differences in reaction to life difficulties in different income quintiles' groups. The lowest income quintile K1 demonstrated the highest mean ranks in the following reactions: "life problems and challenges are perceived as paralyzing will and initiative", "extremely sensitive and stressful reaction to life problems and challenges", "procrastination of problem solving, belief that the life will solve the problems somehow". On the contrary, the highest income quintile K5 demonstrated absolutely different reactions: "moderate stress to life challenges and balanced step-by-step approach to problem solving", "mindful personal efforts and acceptance of whatever life could bring", "problems are perceived as life challenges which might inspire personal growth", "life problems and difficulties are perceived as stimulating initiative, activity, 'fighting' to win".
5. The research results have also revealed statistically significant differences in reaction to life difficulties in different subjective socio-economic status groups. Mean ranks in subjectively the poorest group were significantly higher for the following reactions: "life problems and challenges are perceived as paralyzing will and initiative", "extremely sensitive and stressful reaction to life problems and challenges", "procrastination of problem solving, belief that the life will solve the problems somehow". On the contrary, subjectively richer people reacted differently: "moderate stress to life challenges and balanced step-by-step approach to problem solving", "constructive coping, mobilization of resources and problem solving", "problems are perceived as life challenges which might inspire personal growth", "life problems and difficulties are perceived as stimulating initiative, activity, 'fighting' to win".

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