



DEPRESSIVE RESPONSES TO SOCIO-POLITICAL SHOCK: A CROSS-SECTIONAL ANALYSIS ONE YEAR POST UKRAINE-RUSSIA CONFLICT

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Abstract

The persistent recurrence of armed conflicts throughout human history has inflicted immeasurable suffering and loss. While some societies have successfully fostered peace and cooperation, others remain ensnared by protracted conflict. This disparity raises a fundamental question: What factors contribute to the ability of certain groups and nations to sustain cooperation, while others grapple with recurring violence and strife? The ongoing conflict in Ukraine serves as a poignant exemplar of this global quandary, casting its shadow not only over the Ukrainian population but also over neighbouring countries. Russia's invasion of Ukraine, which commenced in February 2022, is widely regarded as the largest military offensive in Europe since the Second World War. Beyond the tangible destruction wrought by war, it has inflicted profound psycho-emotional trauma upon the affected populace. However, the Ukraine conflict engenders broader questions about the psychological repercussions of war, encompassing not only those directly embroiled in the conflict but also the wider regional population. Lithuania, by virtue of its geopolitical proximity, stands directly exposed to the repercussions of this conflict. Yet, it is not solely the unpredictable actions on the ground that evoke fear and anxiety but also the ominous rhetoric, exemplified by former Russian Prime Minister Mikhail Kasyanov's assertion that "if Ukraine falls, the Baltic countries will be next." Such pronouncements reverberate in society, eliciting a spectrum of reactions characterized by anxiety, uncertainty regarding the future, stress, depression, and feelings of hopelessness. In many instances, these psychological afflictions extend their reach to manifest as physical health issues, such as insomnia, high blood pressure, or even heart attacks. While economic policies strive to mitigate the impact of rising inflation, it remains imperative to address the psychological well-being of the Lithuanian populace. This study thus aims to elucidate the changing levels of depression within the Lithuanian population before the outbreak of the Ukraine conflict, during its course, and one year following its initiation. Through this comprehensive investigation, we seek to discern the pressing necessity for psychological support, as indicated by the PHQ-9 scale's threshold values.

KEY WORDS: War, Mental health, Aggression, Depression, PHQ-9

JEL: I18, I31, P25, R58

Introduction

Depression, a pervasive mental health disorder, has significant implications for patient well-being and healthcare systems. The ultimate goal in depression care is achieving patient remission. However, studies have indicated a concerning depression remission rate of less than 6% for patients treated in primary care settings (Jha et al., 2019). This underscores the need for innovative interventions to improve remission rates. One such intervention, as highlighted by a quality improvement study, demonstrated that the integration of screening, diagnosing, and treating patients using principles of measurement-based care combined with evidence-based Clinical Decision Support (CDS) tools interoperable with Electronic Health Records (EHRs) can significantly enhance remission rates (Jha et al., 2019). The use of EHRs equipped with CDS systems has been posited as a potential mechanism to augment depression screening and remission rates in primary care settings (Trivedi et al., 2019). Furthermore, the implementation of a two-step screening process, utilizing both the PHQ-2 and PHQ-9, has been shown to be effective in improving depression screening rates in clinics (Fuchs et al., 2015).

The PHQ-2 and PHQ-9 are particularly favored in primary care due to their validity, reliability, and brevity (Ferenchick et al., 2019). External factors, such as participation in federal programs like the Delivery System Reform Incentive Payment (DSRIP) program, have also been associated with enhanced depression screening rates, suggesting that financial incentives may play a role in

promoting screening (Texas Health and Human Services, 2019). A paradigm shift in depression care has been proposed, wherein depression is approached as a triage issue rather than solely a mental health access issue (Trivedi et al., 2019). And it is at this time that we need to think in particular about the assessment of depression and the management of the symptoms of depression, because our world is beset by two major problems: the COVID-19 pandemic, followed by the Russia-Ukraine conflict. Wars have been a constant occurrence in human history, causing much suffering and loss. However, some societies have managed to maintain peace and cooperation, while others have been plagued by conflict. This raises the question of why some groups and countries manage to foster cooperation while others suffer from wars and violence (The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2005. [revised 2005], <https://www.nobelprize.org/prizes/economic-sciences/2005/ceremony-speech/>).

The ongoing conflict in Ukraine is a stark reminder of this reality, not only for Ukrainians, but also for the populations of surrounding countries. Russia's invasion of Ukraine began in February 2022 and is considered to be the largest attack in Europe since the Second World War (Osokina et al., 2023). The war has not only caused physical destruction, but has also had a profound effect on the psycho-emotional state of the people affected. However, the conflict raises important questions about the psychological damage of war, not only for those directly involved, but also for the wider population of the region. Lithuania is one of those countries. This is due to our country's geopolitical position, which has a border with the

aggressor. However, it is not only the unpredictable actions that cause great fear and anxiety, but also the words of the former Russian Prime Minister Mikhail Kasyanov, who said that "if Ukraine falls, the Baltic countries will be next" (Teh, 2022, Business Insider). Such sound bites generate a lot of controversy in society. These can include a range of reactions based on anxiety, uncertainty about the future, stress, depression and feelings of hopelessness. In many cases, psychological problems also disturb physical health, which is manifested by insomnia, high blood pressure or even heart attacks (Jonušienė, 2022). Although most economists in the country are making decisions to provide as many compensatory cushions as possible in the face of the inflationary increases that have led to higher costs (Deveikis, 2023), it is important to remember to take care to take care of the psychological state of the Lithuanian population. And to make these services even more accessible if there is a need for them.

The objective was to investigate how the level of depression among the Lithuanian population changed one year after the economic and social upheavals caused by the military conflict. This research work will reveal the level of depression of the Lithuanian population. It will also help to identify the number of people who need psychological help when their scores on the PHQ-9 scale are above the cut-off values. The study will allow to observe the real situation, which will allow to assess which gender, age and educational background people are most in need of psychological help (Spitzer et al., 2014). The Cronbach α of the scale was 0.89; Items rated on a scale from 0 to 10: (a) work efficiency, (b) sense of community. Data analysis was carried out in IBM SPSS Statistics 21 and Rstudio.

Literature review

Depression ranks among the top mental health issues in the U.S. Among adults aged 18 and above, 17.3 million have experienced a significant depressive episode, accounting for 7.1% of the entire U.S. adult population (National Institute of Mental Health, 2020). Depression is both debilitating and expensive, with the combined costs of medical treatment and lost work productivity estimated at around \$210 billion each year (Greenberg et al., 2015; National Network of Depression Centers, 2018). When depression goes untreated, it can lead to emotional distress, decreased work efficiency, lost earnings, strained relationships, and a heightened risk of other health issues (Smithson et al., 2017) (Siu et al., 2016). Given the undeniable connection between mental and physical well-being research indicates that depression often coexists with severe chronic diseases. The importance of early identification and intervention for depression is underscored by a robust body of evidence (Smithson & Pignone, 2017; Mojtabai et al., 2018).

Organizations such as the US Preventive Services Task Force (USPSTF) and the American Academy of Family Physicians advocate for depression screening in adults, emphasizing the integration of screening with support systems and evidence-based protocols (Siu et al., 2016; American Academy of Family Physicians, 2016). The Centers for Medicare & Medicaid Services (CMS) has also emphasized the significance of depression screening in their new value-based payment models (Centers for

Medicare and Medicaid Services, 2018). The Sequenced Treatment Alternatives to Relieve Depression (STAR*D) trial, one of the most extensive prospective randomized clinical trials on depression, highlighted the efficacy of screening and treating depression in primary care settings (Gaynes et al., 2008; Rush et al., 2006). Despite the emphasis on depression screening and treatment, a significant number of patients in primary care remain unidentified and undertreated (Olfson et al., 2016; Kato et al., 2018). Efforts to enhance the identification and treatment of depression in primary care have seen an increased utilization of screening tools, notably the Patient Health Questionnaire (PHQ)-2 and PHQ-9. These tools have demonstrated clinical utility and diagnostic accuracy (Kroenke et al., 2003; Kroenke et al., 2001). Meta-analyses have further validated the effectiveness of both PHQ-2 and PHQ-9 in detecting depression in primary care settings (Smithson & Pignone, 2017). While the aforementioned studies provide valuable insights into the prevalence and management of depression in the U.S., it is crucial to recognize that mental health challenges are not confined to any single geographical region. It is of paramount importance to assess the mental state of populations worldwide, including in countries like Lithuania. Given the recent challenges faced by Lithuania, including the COVID-19 pandemic followed by the war between its neighboring countries, Russia and Ukraine, timely psychological intervention has become not just essential but mandatory (Mura et al., 2022). The compounded stressors from the pandemic and the geopolitical tensions have undoubtedly heightened the mental health concerns within the Lithuanian population.

Addressing these concerns can significantly improve the quality of life and overall well-being of individuals. This underscores the need for studies that assess the level of depression and determine which social groups require the most assistance. In light of this, we conducted a study to evaluate the depression levels within the Lithuanian population and identify the social groups most in need of support.

Methodology

A cross sectional study was conducted to determine the level of depression among the Lithuanian population one year after the invasion of Ukraine by Russian troops. The sample size was 485 respondents, using a quota sampling method. Upon choosing to partake in the research, participants were promptly presented with an informed consent form. Subsequently, they were directed to the survey. During the consent process, individuals were briefed about the research's purpose and goals. They were also assured of the confidentiality of their responses. The survey targeted the broader community and was crafted via the "Google" forms tool, then disseminated across social media platforms such as "LinkedIn", "Twitter", and "Facebook". The questionnaire consisted of 3 parts: demographic data (age, sex, educational background, employment status, job responsibilities, place of residence); Patient Health Questionnaire – 9 (PHQ – 9, scores from 0 to 27, with higher score indicating more expressed symptoms of depression). Scores of 0–4 means minimal or no depressive symptoms, 5–9 are classified as

mild depression; 10–14 as moderate depression; 15–19 as moderately severe depression; ≥ 20 as severe depression. A frequency table was constructed to categorize respondents into distinct groups. We evaluated the PHQ-9 scores, identifying the mean, median, maximum, and minimum values. Similar assessments were conducted for indicators of job performance and sense of community. We calculated the Spearman correlation coefficient to determine the relationship between PHQ-9 scores, sense of community, work efficiency, and age. Additionally, a linear regression model was developed to predict variations in depression levels based on factors such as age, gender, educational attainment, employment status, sense of community, and job effectiveness.

Results

In this cross-sectional study, a total of 485 participants were surveyed, with their primary demographic attributes delineated in Table 1. The research employed a quantitative methodology to scrutinize both the demographic profiles and psychosocial markers of the participants. Of the 485 participants, 162 (33.4%) identified as male, while 323 (66.6%) identified as female. The participants' average age was 28.69 years (SD = 13.11), spanning from 18 to 75 years, with a median age

of 22 years. Educational attainment was categorized into six distinct levels: university, higher college, secondary, basic, primary, and no formal education. A notable proportion of participants (n=254; 52.37%) reported secondary education, followed by 169 respondents (34.85%) with university-level education. Employment status was segmented into five classifications: employed individuals, students, pension or capital income beneficiaries, unemployed individuals, and others not actively participating in the workforce. A significant majority of the participants were either students (n = 250; 51.55%) or employed (n = 199; 41.03%). The PHQ-9 score, gauging depression severity one year post the war's onset, yielded an average score of 7.53 (SD = 5.93), ranging between 0 to 27. National affiliation was assessed on a scale of 1 to 10, with 1 indicating minimal affiliation and 10 indicating maximal. The mean score stood at 7.00 (SD = 2.57). Work proficiency was evaluated on a scale from 1 to 10, where 1 indicated a decline in work quality, and 10 indicated enhancement. The mean score was 4.76 (SD = 1.61). Collectively, these findings offer an in-depth insight into the demographic and psychosocial attributes of the study's participants, facilitating a comprehensive comprehension of the war's socio-psychological ramifications.

Table 1. General characteristics of the participants in the study.

Characteristics	n	%		
Gender (M/W)	162/323	33.4/66.6		
Education (Higher university degree)	169	34.85		
Education (Higher College)	44	9.07		
Education (Secondary)	254	52.37		
Education (Elementary)	16	3.30		
Education (Primary)	1	0.21		
Education (Without any education or training)	1	0.21		
Employment (Employed)	199	41.03		
Employment (Student)	250	51.55		
Employment (Pension or capital income beneficiary)	17	3.51		
Employment (Not in employment)	10	2.06		
Employment (Other, does not depend on labour)	9	1.86		
	Mean	Standard deviation	Median	Interval
Age (year)	28.6866	13.11302	22	18-75
PHQ-9(one year after the start of the war)	7.527835	5.928443	6	0-27
Sense of community (1 - low; 10 - high)	6.997938	2.570895	8	1-10
Work efficiency rating (1 - deterioration in work quality; 10 - improvement in work quality)	4.762887	1.605602	5	1-10

In **Table 2**, the distribution of depressive symptom severity among respondents is delineated. Specifically, 37.1% of participants reported experiencing minimal depressive symptoms, followed by 34.1% with mild symptoms. Moderate depressive symptoms were observed in 15.9% of the respondents. A smaller proportion of the sample indicated more pronounced depressive

manifestations, with 6.8% reporting severe symptoms and 5.8% indicating very severe symptoms. This distribution provides insight into the varying degrees of depressive symptomatology within the study population.

Table 2. Distribution of depressive symptom severity

PHQ-9 score	Frequency	Percentages
Minimal depressive symptoms (0-4 points)	180	37.1 %
Low levels of depressive symptoms (5-9 points)	167	34.4 %
Moderate depressive symptoms (10-14 points)	77	15.9 %
Severe symptoms of depression (15-19 points)	33	6.8 %
Very severe depressive symptoms (20-27 points)	28	5.8 %

A Spearman rank-order correlation analysis (**Table 3.**) was employed to discern the associations between depressive symptoms, as quantified by the PHQ-9 one year post the war's commencement, and variables such as the sense of national cohesion, alterations in occupational performance, and the age of the participants. The PHQ-9 scale, which has a potential score range of 0 to 27, served as a metric for the intensity of depressive symptoms, with elevated scores denoting heightened depression severity.

Table 3. Spearman's correlations between PHQ-9, sense of community, work efficiency rating and age. *** - $p < 0.001$; ** - $p < 0.01$; * - $p < 0.05$

	PHQ-9 (one year after the start of the war)	Sense of community	Work efficiency rating	Age
PHQ-9 (one year after the start of the war)	1.000			
Sense of community	0.063	1.000		
Work efficiency rating	-0.149***	-0.122**	1.000	
Age	-0.296***	-0.161***	-0.033	1.000

A linear regression analysis was undertaken, designating the PHQ-9 as the dependent variable, while gender, age, educational attainment, employment status, sense of community, and work efficiency rating were treated as independent predictors (**Table 4.**) The derived model, characterized by a coefficient of determination ($R^2 = 0.1119$), elucidated several salient determinants. Notably, male respondents exhibited a mean PHQ-9 score that was 2.11 points lower than their female counterparts, implying a diminished intensity of depressive symptoms among men. Furthermore, the PHQ-9 score exhibited a decrement of 0.10 points for each advancing year of age, suggesting a potential attenuation in the severity of depressive symptoms among the older demographic. From an educational perspective, participants with secondary education registered an average PHQ-9 score that was 2.50 points higher than those with primary education,

Evaluations pertaining to shifts in national cohesion and occupational efficiency were conducted utilizing a 10-point scale, where diminished scores signified adverse impacts, and augmented scores represented favorable outcomes. The analytical outcomes revealed a modest inverse correlation between the PHQ-9 scores and alterations in occupational performance ($r = -0.149$, $p < 0.001$), insinuating that pronounced depressive manifestations correlate with suboptimal work efficacy. A similarly modest inverse association was discerned between the PHQ-9 scores and age ($r = -0.296$, $p < 0.001$), suggesting that the younger demographic exhibited more pronounced depressive symptoms. The sense of national cohesion and variations in occupational performance also demonstrated an inverse relationship ($r = -0.122$, $p < 0.01$), indicating that an intensified sense of national cohesion is concomitant with diminished occupational efficacy. Furthermore, the sense of national cohesion and age exhibited a modest inverse correlation ($r = -0.161$, $p < 0.001$), with the data suggesting that the younger cohort manifested a more robust sense of national cohesion.

underscoring the potential influence of educational background on the magnitude of depressive symptoms. Intriguingly, for every unit increment in the score evaluating the repercussions of the Ukrainian conflict on occupational performance, there was a corresponding reduction of 0.58 in the PHQ-9 score. This intimates a potential association between the ramifications of the Ukrainian war on job efficacy and the intensity of depressive manifestations. While the model elucidates approximately 11.19% of the variance in the PHQ-9 scores, it furnishes pivotal foundational insights into the precursors influencing shifts in depressive symptomatology, thereby paving the way for subsequent in-depth investigations in this domain.

Table 4. A linear regression model with the depressive symptom scale as the dependent variable and age, place of residence, education, the impact of war on work performance and ratings of sense of community as independent variables. *** - $p < 0.001$; ** - $p < 0.01$; * - $p < 0.05$.

Independent variable	Regression coefficient β	Standard error	t value	p value
Constanta	13.03658	1.84743	7.057	<0.001***
Gender[T.Male]	-2.11063	0.555297	-3.801	<0.001***
Age	-0.10166	0.033809	-3.007	0.002782**
Education[T.Higher education]	0.513968	0.959895	0.535	0.592597
Education[T.No education]	6.500171	5.934472	1.095	0.273934
Education[T.Elementary education]	1.854016	1.604718	1.155	0.248532
Education[T.Primary education]	-3.16454	5.684617	-0.557	0.578007
Education[T.Secondary education]	2.502536	0.895417	2.795	0.005405**
Employment[T.Other]	0.690698	1.92605	0.359	0.720049
Employment[T.Not employed]	3.08381	1.861617	1.657	0.098282
Employment[T.Recipient of pension or capital income]	2.745183	1.689858	1.625	0.104937
Employment[T.Student]	-1.30985	0.91935	-1.425	0.15489
Sense of community	-0.00589	0.105725	-0.056	0.955629
Work efficiency rating	-0.5811	0.161346	-3.602	<0.001***

Conclusion

The findings of this study underscore the significant impact of depressive symptoms on various demographic groups, particularly among the younger population. A notable negative correlation was observed between age and depressive symptoms, indicating that younger individuals are more susceptible to experiencing heightened levels of depression. This revelation emphasizes the need for future research to prioritize and address the mental health concerns of the younger generation. Furthermore, the aftermath of war has shown to exacerbate depressive symptoms, which in turn adversely affects job performance. As the severity of depressive symptoms escalates, there is a concomitant decline in work efficiency and productivity. Gender disparities were also evident, with women manifesting more pronounced depressive symptoms compared to men. A breakdown of the respondents' experiences revealed that a majority, almost 70%, reported mild to minimal depressive symptoms. Meanwhile, 16% indicated moderate symptoms, 7% severe, and a concerning 6% experienced very severe depressive symptoms. Alarmingly, the majority of those in the severe and very severe categories were young individuals. These findings highlight the pressing need for targeted interventions and support mechanisms, especially for younger individuals, to address and mitigate the debilitating effects of depression on personal well-being and societal productivity.

Recommendations

One of the primary strategies is the organization of Mental Health Awareness Campaigns. Such campaigns play a pivotal role in disseminating information about the signs and symptoms of depression, enabling individuals to recognize their feelings and seek timely assistance. Social media platforms, in particular, have emerged as powerful

tools in this regard. For instance, Saha et al. (2019) highlighted the potential of social media campaigns, such as #MyTipsForMentalHealth on Twitter, in advancing public discourse on mental health (Saha et al., 2019). Another critical aspect is Increasing Accessibility to Mental Health Services. This can be achieved by establishing more mental health clinics or centers, providing online counseling services for those unable to attend sessions in person, and offering services in multiple languages to cater to diverse populations (Alonzo & Popescu, 2021).

Furthermore, promoting Physical Activity is another effective strategy. Exercise has been scientifically proven to alleviate symptoms of depression. Organizing community activities or sports events can serve as a catalyst for encouraging physical activity among the masses. Furthermore, it's essential to Engage the Media. Collaborating with media outlets to broadcast stories that foster positivity, resilience, and hope can serve as a counter-narrative to the often negative news that might be impacting the youth.

The authors recommend further research and studies on the assessment of depression levels in the face of major disasters such as war and pandemics. The authors also suggest the creation of a depression map that will help to assess the target municipalities in need of assistance, thus saving public funds and ensuring that the population in need receives assistance.

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