DOI 10.15407/sociology2022.02.162
UDC 303.023:[159.944.4:613.86]

KATERYNA MALTSEVA,

Candidate of Sciences in Philosophy (2003), PhD in Anthropology (2010); Associate Professor at the Sociology Department of the Faculty of Social Sciences and Social Technologies, National University of «Kyiv-Mohyla Academy» (8/5, Voloska St., block 4, room 213, Kyiv, 04655); Affiliated Research Scientist at the University of Connecticut (USA)

maltsevaKS@ukma.edu.ua
https://orcid.org:0000-0001-6540-8734
Scopus author Id=12139513400

Stress perception: A pathway from socio-economic status to health

The «universe of stress» and inequality

Every day our bodies and brains adapt to changing situations regardless of our perceptions of these situations as «stressful» [Schieman, 2019]. These adaptations may include instances when we do not get our usual amount of sleep, when we exceed or reduce the amount of social interaction that is typical for us, when we are stuck in a loud crowd, etc. What exactly is «stress» and «stressor» as conceptualized by those medical sociologists and social epidemiologists studying the effects of society on human physiology? And more importantly, what kinds of stress are noxious for human health?

The concept of stress has changed considerably over the past 50 years and, in consequence, our understanding of stress biology has expanded and become more nuanced [Cole, 2010; Epel et al., 2018; McEwen, 2019]. Prior to the formulation of the stress process theory the concept of «stress» was primarily understood as an extraordinary and dangerous event that was bound to cause harm to one's health and bring about the onset of disease, thus branding it as deleterious and inherently maladaptive. However, contemporary socio-epidemiological literature views stress as a continuous adaptive process during which an individual scans the environment and adapts to its changes while actively resisting the negative impact of stress and learning to cope with and anticipate the future challenges [Kiecolt-Glaser, Renna, Shrout, & Madison, 2020; McEwen & Akil, 2020; Turner et al., 2020]. Furthermore, owing to several decades of biological and medical research into stress and immune response, stress is no longer conceptualized as a dramatic, irregular experience with an unequivocally destructive potential for health but as an adaptive process of monitoring one's (social and natural)

Цитування: Maltseva, K. (2022). Stress perception: A pathway from socio-economic status to health. *Соціологія: теорія, методи, маркетинг*, 2, 162–176, https://doi.org/10.15407/sociology2022.02.162.

environment, which occurs regularly and in which an individual takes an active role in resisting stress and acquiring skills for more effective coping [Cohen, Murphy, & Prather, 2019; Hughes, Steffen, & Thayer, 2018; McEwen & Akil, 2020].

In general terms, the stress dynamics includes the interaction of the external factors (elements of the situation that acts as a stressor, which in an individual's perception translates into his/her experience of tension of different degrees, varying from a slight discomfort to a potential health or life threat) and internal factors (that are the physiological reactions and biomarkers of stressful experiences). Since the extent to which a situation is perceived as stressful varies from person to person depending on their psychological constitution, cultural heritage and characteristics of life trajectory, the cognitive (evaluative) component of the mechanics of stress is of great importance to studying the impact of stress on health [Christensen et al., 2019; Cundiff, Boylan, & Muscatell, 2020; Kiecolt-Glaser et al., 2020; McLeod, 2012; Segerstrom & O'Connor, 2012]. That is why stress perception is an essential component of the presently prevalent theoretical model of stress process.

Several decades ago those social scientists who initiated the research on stress in medical sociology started emphasizing the impracticality of exploring stress process without including its *interpretative* aspect [Lazarus & Folkman, 1984; McLeod, 2012; Pearlin, 1989; Reynolds & Turner, 2008]. Stressful elements can be part of one's factual environment/situation, or one's evaluation of the environment/situation, or one's reaction to an environment/situation — first and foremost, emotional and physiological responses [Segerstrom & O'Connor, 2012]. Therefore, perception of stress, or subjective stress, is a parameter that matters if we intend to explain causal relationships between stress and health, as well as variation in the ensuing health outcomes.

Another important aspect of conceptualizing the links between stress and health — which is, by implication, part and parcel of measuring stress in stress research — takes into consideration at least three factors such as stress *exposure,* stressful situation *evaluation* and stress *response* [McLeod, 2012; Pearlin, 1989; Schieman, 2019], as well as distinguishing between them. Ignoring this aspect potentially leads to equating stress exposure with stress response and even extending stress-related health outcomes to all instances of stress exposure. However, in actuality not all stressful events have the same impact on people, and individuals vary among themselves with respect to their stress resistance and resilience [McEwen, 2019]. At this juncture, it is worth pointing out that socio-economic status (SES), in its turn, influences the likelihood of stress exposure and how its consequences will be perceived, evaluated and addressed [Mullainathan & Shafir, 2013]. It is also worth noting that inequality per se can have different forms in different countries [Lopez-Roldan & Fachelli, 2021], thus shaping patterns of stress exposure and interpretation of stress experience across different cultural contexts.

There are different kinds of stressors; their effect can be of short and long duration, e.g. they can be acute or chronic. Chronic stressors are particularly important for social research as they are often inextricably connected to the social fabric and also very impactful. Moreover, the effects of chronic stressors in health tend to accumulate and generate cascading consequences. Embedded into the structure of social roles, cultural prescriptive norms, social statuses and hierarchies, chronic stressors are part of

the daily routines that is often left unnoticed (and unprocessed) by cultural community members who go through it day by day [Schieman, 2019]. The impact of chronic stressors on health has received much research attention, but the mechanisms by which the «wear-and-tear» attributable to the allostatic load occurs are still not fully understood [Goldstein & McEwen, 2002]. Once again, one's SES is a characteristic that likely determines the presence of chronic stressors in one's life, as well as their nature, amount and severity. For example, compared to high SES, low SES is associated with the risks of sexual, physical and psychological abuse, childhood trauma, neglect and other forms of early childhood adversity that have been systematically shown to affect health in adult years [Fogelman & Canli, 2019; Miller, Chen, & Parker, 2011].

Social gradient in health (an inverse relationship between socio-economic status and morbidity/mortality) has been documented virtually in every community where it has been studied [Lea et al., 2021]. There are a number of theoretical explanations of health inequalities, and the effects of SES in health outcomes are well studied. Although they focus on different aspects of SES and place different emphasis on the timing of impactful events, most researchers concur that the direction of gradual changes in health with the decrease in social standing is universally supported by empirical data. Thus, a gradual decrease in health with the reduction of status in the social hierarchy is an important feature in the context of how the society and its structures can influence human physiology.

A Ukrainian study on stress perception, SES and health (Kyiv, May 2020 — February 2021)

The study presented here incorporated the implications of the above-mentioned theoretical nexus to evaluate the effects of SES on stress and health. It was also aimed at testing several hypotheses with regard to the multifaceted interactions between SES, stress and health outcomes. A distinguishing feature of this study is that the **data** on stress was collected in the context of uncertainty during the early stages of the COVID-19 pandemic and after the first lockdown in Ukraine. This allowed assessing not only the impact of socio-economic status on health outcomes via stress but also the stress generated by exposure to economic uncertainty owing to the quarantine restrictions in different socio-economic groups.

The data for the study was collected in Kyiv (Ukraine) from May 2020 through February 2021. Owing to the quarantine restrictions mandating social distancing that began in Kyiv in March 2020, the data collection was carried out remotely by means of an online survey with the help of gatekeepers[1], as recommended in ethnographic research settings [Feldman, Bell, & Berger, 2003]. Prospective participants were contacted via email, phone or social media personally by the researcher or a gatekeeper. They were given the details of the study in a brief information letter and invited to take part in the survey. Considering the objectives of the project, attracting individuals from different age groups and diverse backgrounds was considered beneficial to ensure variability in the sample [Daniel, 2012].

1 In qualitative research, gatekeepers are individuals with extensive social networks.

The study tested the following **propositions** regarding the interrelations between stress, SES and health: (a) stress affects self-rated health and wellness of individuals; (b) current SES affects individual self-rated health and wellness; (c) individuals from low SES categories face higher current perceived stress levels compared to individuals from higher SES categories; (d) individuals who report having low SES in childhood have higher perceived stress levels during the COVID-19 pandemic compared to their counterparts whose familial socio-economic status was higher when they were children; and (e) having chronic conditions exacerbates individual stress levels.

The **sample** (*n* = 902) was 73% female, and the respondents' age ranged between 16 and 84. The mode was 18 years old. Most participants were from big Ukrainian cities, childless, had some university education and were employed at the time of data collection. Two questions preceded the survey, asking the participants how hard it was for them to adjust to the conditions of the first lockdown and if they resided alone during that time. This was done to control for stress levels owing to those epidemiological circumstances and to assess the objective conditions that could have contributed to higher perceived levels of stress due to solitary living conditions imposed by the quarantine. Most surveyed individuals rated the severity of the experienced hardship as 2 out of 4 (with mean, mode and median scores of 2). For the purposes of the study these characteristics of the sample were adequate. The central tendency measures for socio-demographic variables are presented in Table 1.

Table 1

Socio-demographic variables: descriptive statistics (*n* = 902)

Demographic items	*Mean*	*Median*	*Mode*	*Standard deviation*	*Min*	*Max*	*N*	
							Valid	*Missing*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
Please indicate your gender: male = 1; female = 2; other = 3	1.73	2.00	2	0.45	1	3	902	0
Please indicate your age in full years	31.41	28.00	18	12.88	16	84	900	2
Which of the following best describes your living arrangements? 1 = living with family; 2 = living in a dorm; 3 = renting with flatmate(s); 4 = renting by myself	2.90	4.00	4	1.35	1	4	902	0
Do you have any siblings? No = 1; yes = 2	1.68	2.00	2	0.47	1	2	902	0
Are you currently employed? No = 1; yes = 2	1.64	2.00	2	0.48	1	2	902	0
Which of the following best describes the current financial situation of your family? 1 = We do not have enough money for food, we have debts; 2 = We have enough money for food but buying clothes is a strain; 3 = We can afford some luxuries and purchases such as a TV or a fridge; 4 = We can purchase whatever we want	2.87	3.00	3	0.59	1	4	902	0

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
Which of the following best describes the financial situation of your family when you were a child? 1 = We did not have enough money for food, we had debts; 2 = We had enough money for food but buying clothes was a strain; 3 = We could afford some luxuries and purchases such as a TV or a fridge; 4 = We could purchase whatever we wanted	2.59	3.00	3	0.68	1	4	902	0
How many friends you have whom you could call if you have gotten into trouble? 1 = none; 2 = one; 3 = two through four; 4 = five or more	3.04	3.00	3	0.67	1	4	902	0
Which of the following best describes your relationship status? 1 = single; 2 = divorced; 3 = have a significant other; 4 = married	2.78	3.00	1	1.49	1	4	901	1
Do you have children? 1 = no children; 2 = one child; 3 = two children; 4 = three or more children	1.71	1.00	1	0.91	1	4	753	149
How much time per day do you spend on social networking sites? 1 = less than an hour, 2 = one or two hours; 3 = several hours, 4 = most of the day	2.46	2.50	3	0.91	1	4	902	0
Please indicate your level of education: 1 = high school; 2 = vocational school; 3 = BA or a few years at university; 4 = postgraduate degree	2.93	3.00	3	0.54	1	4	902	0
Please indicate your father's education level: 1 = high school; 2 = vocational school; 3 = BA or a few years at university; 4 = postgraduate degree	2.66	3.00	3	0.72	1	4	882	20
Please indicate your mother's education level: 1 = high school; 2 = vocational school; 3 = BA or a few years at university; 4 = postgraduate degree	2.69	3.00	3	0.68	1	4	898	4
Did your parents care about your emotional needs and comfort when you were a child? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	2.99	3.00	3	0.89	1	4	902	0
Do you make sure that you eat healthy (have regular meals and nutritious diet)? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	2.98	3.00	3	0.79	1	4	902	0
Do you make sure to drink enough water every day? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	2.86	3.00	3	0.98	1	4	902	0
Are you getting enough sleep? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	3.19	3.00	4	0.87	1	4	902	0

1	2	3	4	5	6	7	8	9
Do you have any chronic conditions? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	2.20	2.00	1	1.16	1	4	902	0
Do you get tired easily? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	2.41	2.00	2	0.93	1	4	902	0
Can you take sick leave if you need to? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	3.55	4.00	4	0.74	1	4	902	0
Do you have access to health care when you need it? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	3.46	4.00	4	0.73	1	4	902	0
Do you smoke? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	1.67	1.00	1	1.13	1	4	902	0
Does your alcohol intake exceed two drinks per week? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	1.81	1.00	1	1.09	1	4	902	0
Do you exercise at least twice a week? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	2.48	2.00	1	1.23	1	4	902	0
Can you lead a healthy lifestyle to the degree that you feel you need to feel well? 1 = no; 2 = rather no than yes; 3 = rather yes than no; 4 = yes	2.99	3.00	3	0.87	1	4	902	0
How good would you say your health is in general? 1 = very poor; 2 = poor; 3 = good; 4 = very good	2.98	3.00	3	0.48	1	4	902	0
How well would you say you are feeling on a regular day? 1 = I cannot carry out my daily routines anymore; 2 = I am often unwell and it is beginning to affect my performance at school or work; 3 = I am feeling okay most of the time; 4 = I am healthy and filled with energy	3.08	3.00	3	0.63	1	4	902	0

The **questionnaire** consisted of four sections: (a) the measure of subjective experience of stress (Cohen's Perceived Stress Scale, 14 items [Cohen, Kamarck, & Mermelstein, 1983]); (b) the measure of depression (Beck's BDI-I Scale, 21 items) [Beck, Ward, Mendelson, Mock, & Erbaugh, 1961]; (c) the measure of positive mental health (Flourishing Scale, eight items) [Diener et al., 2010]); and (d) a socio-demographic section (30 items). All psychological scales had internal consistency levels comparable to those of other published studies: BDI-I scale ($\alpha = 0.90$), Flourishing Scale ($\alpha = 0.85$), and Cohen's Perceived Stress Scale ($\alpha = 0.85$).

The socio-demographic section contained standard demographic information about age, gender, level of education, childhood environment, parental educational attainment, etc. All items used a 4-point Likert scale, except for the checklist questions ascertaining the types of stressful events that have been experienced by a participant over the past few months (which is the «Yes/No» question), as well as for the clinical BDI-I scale that was used in the following analysis as an additive index. Measures of positive

mental health were included both in the form of a multi-item scale and as a single variable, due to their differential ability to capture variation in the underlying construct.

To control for the effects of socio-economic status, two measures of income were used: current household income and retrospective income in childhood with respect to the family of origin. Meanwhile, it should be noted that income is the most typically used indicator in health gradient research [Lopez-Roldan & Fachelli, 2021]. In the analysis, the additional variable for SES change was also computed by subtracting the retrospective measure of childhood SES from the current SES (i.e. SES at the time of surveying). The positive score indicated increase, whereas the negative score meant decrease in SES during one's life trajectory. All questionnaire items were phrased in Ukrainian.

In the absence of biomarkers, Cohen's Perceived Stress Scale was used to measure the subjective experience of stress, e.g. feeling upset, overwhelmed, angry, unable to cope, etc. [Cohen et al., 1983].

Results and discussion. The data analysis was performed in IBM SPSS Statistics 25.0 [IBM SPSS Statistics for Windows, 2017] and Microsoft Excel. After data cleaning and reliability checking the next step in the analysis was to create scales and calculate additive indices that would be then used in the regression analysis to explore causal links between socio-demographic characteristics, on the one hand, and stress and health measures (both objective and perceptual), on the other. Correlations among all indices are presented in Table 2.

Table 2

Correlation of indices: Stress Perception Index [Cohen et al., 1983], Depression Index (BDI-I) [Beck et al., 1961], and Flourishing Index [Diener et al., 2010]

Indices	Stress Perception Index	Depression Index (BDI-I)	Flourishing Index
Stress Perception Index	1.00		
Depression Index (BDI-I)	0.42	1.00	
Flourishing Index	–0.14	–0.66	1.00

Figure 1 and Figure 2 supply context for the present findings with regard to the social determinants of health: the graphs represent the gradients in health that are typically of interest to health researchers addressing similar questions. Both self-rated health and subjective experience of wellness show a distribution of averaged scores that privilege higher SES groups. This finding is consistent with major socio- epidemiological findings in Europe and North America.

According to the results of linear regression, the current familial SES had statistically significant effects on depression and flourishing measures (i.e. negative and positive sides of mental health spectrum), on both subjective health measures and perceived stress levels[1]. Familial SES in a respondent's childhood had an influence on respondent's current SES ($\beta = 0.196$, $p \leq 0.000$). A respondent's family's SES in childhood per se only influenced the levels of perceived stress (indicating a weak positive

1 These and subsequent data are presented in Table 3.

relationship). However, a decrease in SES during one's lifetime (computed as a difference between the indicators of the respondent's current familial SES and his/her SES in childhood, as embodied by a separate variable) had a statistically significant effect on the perceived stress and wellness by increasing the former and decreasing the latter. In absolute terms, this effect on perceived stress was more potent than that of the current SES. The decrease in SES during one's lifetime also showed an impact on metrics of depression and flourishing, suggesting a tendency towards mental health deterioration on both negative and positive sides of mental health spectrum. In this context, it is noteworthy that the impact of either of these SES variables on health-related measures exceeded that of the accessibility of medical care. These findings support the propositions expressed in the hypothetical propositions (a)–(d) and signal the importance of the link between low SES and stress as a meaningful pathway that impacts an individual's health.

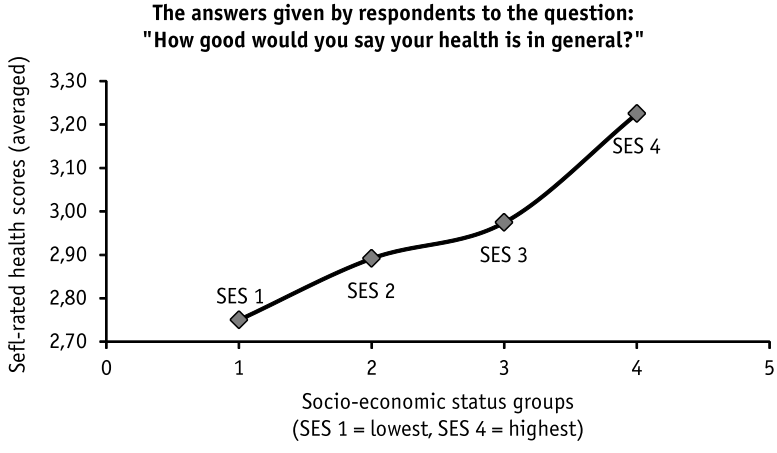

Figure 1. Social gradient in health by self-rated health (averaged scores)

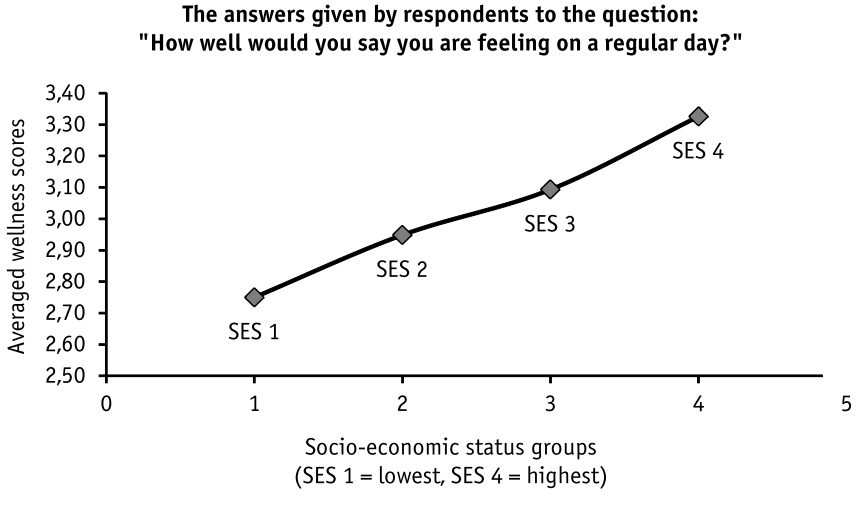

Figure 2. Social gradient in health by wellness (averaged scores)

Overall, the female respondents in the sample showed higher depression scores compared to their male counterparts; female gender also came out as a significant predictor of higher stress levels, lower flourishing scores and poorer subjective wellness, but the causal relationship was low in strength. This general finding is consistent with the results of nationally representative surveys in many industrialized, Western countries such as the USA and European welfare states.

Albeit self-rated health decreased with age, older respondents scored lower on stress and depression and had higher scores on flourishing compared to younger participants in the sample.

Having good friends contributed to one's resistance to depression, increase in flourishing and improvement of self-rated health scores in the sample. Furthermore, individuals who had a partner at the moment of data collection displayed lower scores of stress and depression, as well as higher scores of positive mental health compared to those who did not have a partner in their lives. The same statistical pattern was found for individuals with children, but the association was weaker.

Spending long hours on social media sites was conducive to increased levels of depression and stress. It also negatively affected flourishing (positive mental health) scores.

Table 3

The results of linear regression for SES and mental health variables

Variables	Depression Index (BDI-I)		Flourishing Index		Stress Perception Index		Self-rated health		Self-rated wellness	
	Beta (standardized)	Adjusted R^2	Beta (standardized)	Adjusted R^2	Beta (standardized)	Adjusted R^2	Beta (standardized)	Adjusted R^2	Beta (standardized)	Adjusted R^2
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
Current SES	–0.183***	0.033	0.141***	0.019	–0.150***	0.021	0.176***	0.030	0.167***	0.027
SES in childhood	0.019		–0.057		0.077*	0.005	0.032		–0.059	
Change in SES	–0.115***	0.021	0.104**	0.010	–0.174***	0.029	0.101**	0.009	0.172***	0.028
Gender	0.189***	0.035	–0.085*	0.006	0.092**	0.007	–0.063 (p = 0.059)		–0.027*	0.004
Age	–0,216***	0.046	0.170***	0.028	–0.173***	0.029	–0.105**	0,010	–0.046	
Employment	–0.206***	0.041	0.176***	0.030	–0.053				0.053	
Number of friends	–0.097**	0.008	0.159***	0.024	0.039		0.127***	0.015	0.079*	0.005
Relationship status	–0.225***	0.050	0.215***	0.045	–0.141***	0.019	–0.024		0.041	

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
Number of children	–0.163***	0.025	0.142***	0.019	–0.094*	0.008	–0.069 (p = 0.060)		–0.009	
Hours spent on social media	0.223***	0.049	–0.125***	0.015	0.196***	0.037	–0.046		0.100**	0.009
A respondent's education level	–0.091**	0.007	0.074*	0.004	–0.038		–0.027		–0.012	
Education level of the respondent's father	0.027		–0.001		0.014		0.035		–0.002	
Education level of the respondent's mother	0.120***	0.013	–0.041		0.116**	0.012	0.019		0.027	
Parents caring about the respondent's well-being when he/she was a child	–0.174***	0.029	0.174***	0.029	–0.089*	0.007	0.156***	0.023	0.126***	0.015
Nutritious diet (at present)	–0.337***	0.113	0.327***	0.106	–0.184***	0.033	0.275***	0.074	0.201***	0.04
Regular hydration	–0.148***	0.021	0.239***	0.056	–0.029		0.181***	0.032	0.134***	0.017
Getting enough sleep	–0.227***	0.051	0.174***	0.029	–0.137***	0.018	0.233***	0.053	0.238***	0.055
Chronic conditions	0.128***	0.015	–0.078*	0.005	0.044		–0.299***	0.088	–0.289***	0.082

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
Tiredness	0.529***	0.279	–0.422***	0.177	0.231***	0.052	–0.372***	0.138	–0.455***	0.206
Staying at home / taking sick leave if needed	–0.164***	0.026	0.128***	0.015	–0.093*	0.008	0.164***	0.02	0.126***	0.015
Health services available	–0.122***	0.014	0.109**	0.011	–0.039		0.182***	0.032	0.122***	0.014
Smoking	0.203***	0.040	–0.109**	0.011	0.102**	0.010	–0.142***	0.019	–0.106**	0.010
Alcohol intake per week	0.045		–0.082*	0.006	–0.007		–0.046		0.000	
Physical exercise	–0.148***	0.021	0.157***	0.024	–0.051		0.285	0.080	0.273***	0.073
Leading a healthy lifestyle	–0.247***	0.060	0.220***	0.047	–0.176***	0.030	0.300	0.089	0.323***	0.104

*$p \le 0.05$; **$p \le 0.01$; ***$p \le 0.001$

A respondent's educational attainment had some effect on depression, yet the association was not the one of great strength. No other causal effects of education were found. Education level of the respondent's father had no effect on his/her health outcomes; however, the respondent's mother's higher educational attainment increased the likelihood of depressive symptoms and higher levels of perceived stress in the respondent.

Moreover, having parents who did care for the respondent's emotional needs in childhood had a series of causal connections with health outcome variables which were similar to the effects of higher SES — although the association was of smaller magnitude. This is an important finding confirming that parents play a considerable role in forming the resource of health during one's childhood.

Individuals who reported leading a healthy lifestyle, particularly having good nutrition and getting enough sleep also mentioned having lower levels of perceived stress. Smoking had a reverse effect.

Chronic diseases had a negative effect on both measures of self-rated health but had no effect on perceived stress. Therefore, out of all five hypotheses this particular proposition (e) was not supported by the data; in the meantime, the data supported the remaining four hypotheses.

Conclusions and future directions. The study conducted in Kyiv (Ukraine) from May 2020 through February 2021 collected data regarding interrelations between an individual's socio-economic status, perceived stress and health.

The data supported most of the hypotheses (four out of five) formulated at the beginning of the study. First of all, perceived stress levels had a statistically significant effect on metrics of both self-rated health and wellness, decreasing both. The same effect was found for socio-economic status: low SES reduced self-rated health and wellness. In the sample, individuals with lower SES reported facing higher current stress levels during the COVID-19 pandemic. Individuals whose familial SES in childhood was low displayed a tendency to have higher perceived stress levels at the moment of data collection during the pandemic, as compared to their counterparts who belonged to higher SES categories as children.

The last hypothesis was not supported by the data: chronic conditions did not have an impact on perceived stress levels in the sample, although this negatively influenced both measures of self-rated health and wellness.

In contemporary sociological literature on social determinants of health, socio-economic status is typically interpreted as a macro-variable responsible for the variation in health, as well as the most potent predictor of physical and mental health outcomes in most communities that have been surveyed. The results of the present study are consistent with this tendency. The study also furnishes support for the role parental figures play in the formation of the health resource in childhood, suggesting that with respect to health-related behavior this avenue of social transmission should be explored more in-depth.

References

Beck, A.T., Ward, C.H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry,* 4, 561–571. https://dx.doi.org/10.1001/archpsyc.1961.01710120031004

Berkman, L.F., Kawachi, I., & Glymour, M.M. (Eds.) (2014). *Social epidemiology* (2nd ed.). Oxford, England: Oxford University Press.

Christensen, D.S., Dich, N., Flensborg-Madsen, T., Garde, E., Hansen, A.M., & Mortensen, E.L. (2019). Objective and subjective stress, personality, and allostatic load. *Brain and Behavior, 9*(9), e01386. https://dx.doi.org/10.1002/brb3.1386

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). Perceived Stress Scale [Database record]. APA PsycTests. https://dx.doi.org/10.1037/t02889-000

Cohen, S., Murphy, M.L.M., & Prather, A.A. (2019). Ten surprising facts about stressful life events and disease risk. *Annual Review of Psychology, 70,* 577–597. https://dx.doi.org/10.1146/annurev-psych-010418-102857

Cole, S.W. (2010). Elevating the perspective on human stress genomics. *Psychoneuroendocrinology, 35*(7), 955–962. https://dx.doi.org/10.1016/j.psyneuen.2010.06.008

Cundiff, J.M., Boylan, J.M., & Muscatell, K.A. (2020). The pathway from social status to physical health: Taking a closer look at stress as a mediator. *Current Directions in Psychological Science, 29*(2), 147–153. https://dx.doi.org/10.1177/0963721420901596

Daniel, J. (2012). Choosing the size of the sample. In *Sampling essentials: Practical guidelines for making sampling choices* (pp. 236–253). Thousand Oaks, CA: Sage. https://dx.doi.org/10.4135/9781452272047.n7

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research, 97*(2), 143–156. https://dx.doi.org/10.1007/s11205-009-9493-y

Epel, E.S., Crosswell, A.D., Mayer, S.E., Prather, A.A., Slavich, G.M., Puterman, E., & Mendes, W.B. (2018). More than a feeling: A unified view of stress measurement for population science. *Frontiers in Neuroendocrinology, 49,* 146–169. https://dx.doi.org/10.1016/j.yfrne.2018.03.001

Feldman, M.S., Bell, J., & Berger, M.T. (Eds.). (2003). *Gaining access: A practical and theoretical guide for qualitative researchers.* Walnut Creek, CA: AltaMira Press.

Fogelman, N., & Canli, T. (2019, August 2). Early life stress, physiology, and genetics: A review. *Frontiers in Psychology.* https://dx.doi.org/10.3389/fpsyg.2019.01668

Goldstein, D.S., & McEwen, B. (2002). Allostasis, homeostats, and the nature of stress. *Stress: The International Journal on the Biology of Stress, 5*(1), 55–58. https://dx.doi.org/10.1080/102538902900012345

Hughes, B.M., Steffen, P.R., & Thayer, J.F. (2018). The psychophysiology of stress and adaptation: Models, pathways, and implications. *International Journal of Psychophysiology: Official Journal of the International Organisation of Psychophysiology, 131,* 1–3.

IBM Corp. Released. (2017). IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.

Kiecolt-Glaser, J.K., Renna, M.E., Shrout, M.R., & Madison, A.A. (2020). Stress reactivity: What pushes us higher, faster, and longer — and why it matters. *Current Directions in Psychological Science, 29(5),* 492–498. https://dx.doi.org/10.1177/0963721420949521

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping.* New York, NY: Springer.

Lea, A.J., Waigwa, C., Muhoya, B., Lotukoi, F., Peng, J., Henry, L.P., ... Ayroles, J. F. (2021). *Social gradients in health vary between rural and urban Turkana.* Retrieved from https://www.medrxiv.org/content/10.1101/2021.07.23.21260771v1

Lopez-Roldan, P., & Fachelli, S. (Eds.). (2021). *Towards a comparative analysis of social inequalities between Europe and Latin America.* Cham, Switzerland: Springer. https://dx.doi.org/10.1007/978-3-030-48442-2

McEwen, B.S. (2019). The good side of «stress». *Stress: The International Journal on the Biology of Stress, 22*(5). 524–525. https://dx.doi.org/10.1080/10253890.2019.1631794

McEwen, B.S., & Akil, H. (2020). Revisiting the stress concept: Implications for affective disorders. *Journal of Neuroscience, 40*(1), 12–21. https://dx.doi.org/10.1523/JNEUROSCI.0733-19.2019

McLeod, J.D. (2012). The meanings of stress: Expanding the stress process model. *Society and Mental Health, 2*(3), 172–186. https://dx.doi.org/10.1177/2156869312452877

Miller, G.E., Chen, E., & Parker, K.J. (2011). Psychological stress in childhood and susceptibility to the chronic diseases of aging: Moving toward a model of behavioral and biological mechanisms. *Psychological Bulletin, 137*(6), 959–997. https://dx.doi.org/10.1037/a0024768

Mullainathan, S., & Shafir, E. (2013). *Scarcity: Why having too little means so much.* New York, NY: Times Books.

Pearlin, L.I. (1989). The sociological study of stress. *Journal of Health and Social Behavior, 30*(3), 241–256. https://dx.doi.org/10.2307/2136956

Reynolds, J.R., & Turner, R.J. (2008). Major life events: Their personal meaning, resolution, and mental health significance. *Journal of Health and Social Behavior, 49*(2), 223–237. https://dx.doi.org/10.1177/002214650804900208

Schieman, S. (2019). Ordinary lives and the sociological character of stress: How work, family, and status contribute to emotional inequality. *Society and Mental Health, 9*(2), 127–142. https://dx.doi.org/10.1177/2156869319844805

Segerstrom, S.C., & O'Connor, D.B. (2012). Stress, health and illness: Four challenges for the future. *Psychology & Health, 27*(2), 128–140. https://dx.doi.org/10.1080/08870446.2012.659516

Turner, A.I., Smyth, N., Hall, S.J., Torres, S.J., Hussein, M., Jayasinghe, S.U., … Clow, A.J. (2020). Psychological stress reactivity and future health and disease outcomes: A systematic review of prospective evidence. *Psychoneuroendocrinology, 114,* 104599. https://dx.doi.org/10.1016/j.psyneuen.2020.104599

Received 04.09.2021

КАТЕРИНА МАЛЬЦЕВА

Сприйняття стресу: шлях від соціально-економічного статусу до стану здоров'я

Дослідження стресу є важливим напрямом у медичній соціології. Психосоціальний стрес пов'язаний з несприятливими наслідками для фізіологічних систем і може залишати свої відголоски в організмі в довготривалій перспективі. Соціально-економічний статус своєю чергою впливає на ймовірність зіткнення зі стресором і на те, як індивід зможе побороти наслідки цього зіткнення. Існують рясні систематичні докази як щодо впливу стресу на стан здоров'я, так і щодо складних взаємозв'язків між соціально-економічним становищем, стресом і його наслідками для здоров'я. Завдяки серії відкриттів у біомедичній сфері впродовж останніх десятиліть наше розуміння процесу стресу стало значно більш комплексним, а механізми впливу психосоціального стресу на здоров'я увиразнилися в дослідницькій літературі. Інтеґрація цих знахідок із царини біології, генетики й медицини в соціологічні, антропологічні та соціально-епідеміологічні дослідження стресу змінила те, як ця дослідницька ніша в соціальних науках концептуалізує та вимірює стрес, а також те, як розцінюється роль, що її людське суспільство та його структури відіграють у патернах захворюваності, старіння та смертності. Хоча зв'язок між стресом та станом здоров'я вивчений добре, порівняно мало уваги приділяється питанню сукупності взаємозв'язків між соціально-економічним статусом, процесом стресу та його наслідками для здоров'я. Кількісне дослідження, проведене авторкою в Києві (n = 902) протягом 2020–2021 років на основі онлайн-анкетування, розглядало зв'язки між соціально-економічним статусом та стресом у контексті наслідків для здоров'я. Зокрема, збиралися дані для перевірки таких гіпотез: а) стрес чинить вплив на суб'єктивну оцінку здоров'я та самопочуття індивіда; б) соціально-економічний статус індивіда теж впливає на суб'єктивну оцінку його/її здоров'я та самопочуття; в) у індивідів з нижчим соціально-економічним статусом поточний рівень стресу (згідно з їхніми оцінками) вищий; г) індивіди, які в дитинстві мали нижчий соціально-економічний статус, у момент збирання даних під час пандемії коронавірусу характеризуються вищим рівнем сприйняття стресу, ніж ті, чий соціально-економічний статус у дитинстві був вищим; д) наявність хронічних захворювань у дорослому віці посилює вплив стресу.

Ключові слова: *стрес, соціально-економічний статус, суб'єктивне здоров'я, наслідки для здоров'я, причинні механізми, кількісні методи*

ЕКАТЕРИНА МАЛЬЦЕВА

Восприятие стресса: путь от социально-экономического статуса к состоянию здоровья

Исследование стресса является важным направлением в медицинской социологии. Психосоциальный стресс связан с неблагоприятными последствиями для физиологических систем и может оставлять свои отголоски в организме в долгосрочной перспективе. В свою очередь, социально-экономический статус влияет на вероятность столкновения со стрессором и на то, как индивид сможет побороть последствия этого столкновения. Существуют обширные систематические доказательства как относительно влияния стресса на состояние здоровья, так и касательно сложных взаимосвязей между социально-экономическим положением, стрессом и его последствиями для здоровья. Благодаря серии открытий в биомедицинской сфере в течение последних десятилетий наше понимание процесса стресса стало гораздо более комплексным, а механизмы влияния психосоциального стресса на здоровье более четко отображаются в исследовательской литературе. Интеграция этих новых открытий из области биологии, генетики и медицины в социологические, антропологические и социально-эпидемиологические исследования стресса изменила то, как эта исследовательская ниша концеп-

туализирует и измеряет стресс, а также то, как расценивается роль, которую человеческое общество и его структуры играют в паттернах заболеваемости, старения и смертности. Хотя связь между стрессом и состоянием здоровья изучена хорошо, сравнительно мало внимания уделяется вопросу совокупности связей между социально-экономическим статусом, процессом стресса и его последствиями для здоровья. Количественное исследование, проведенное автором в Киеве (n = 902) в течение 2020–2021 годов на основе онлайн-анкетирования, рассматривало связи между социально-экономическим статусом и стрессом в контексте последствий для здоровья. Собирались, в частности, данные для проверки следующих гипотез: а) стресс оказывает влияние на субъективную оценку здоровья и самочувствия индивида; б) социально-экономический статус индивида тоже влияет на субъективную оценку его/ее здоровья и самочувствия; в) у индивидов с более низким социально-экономическим статусом текущий уровень стресса (согласно их оценкам) более высокий; г) для индивидов, у которых в детстве был более низкий социально-экономический статус, в момент сбора данных во время пандемии коронавируса характерен более высокий уровень восприятия стресса по сравнению с теми, чей социально-экономический статус в детстве был выше; д) наличие хронических заболеваний во взрослом возрасте усиливает влияние стресса.

Ключевые слова: *стресс, социально-экономический статус, субъективное здоровье, последствия для здоровья, причинные механизмы, количественные методы*

KATERYNA MALTSEVA

Stress perception: A pathway from socio-economic status to health

Stress research is an important area in medical sociology. Psychosocial stress accounts for negative health outcomes across various physiological systems and can have far-reaching consequences for the organism's health. Socio-economic status, in its turn, influences the likelihood of stress exposure and how its consequences will be addressed. All in all, there is ample systematic evidence in support of complex associations between socio-economic status, stress and health outcomes. Following a series of discoveries in the biomedical sphere, our understanding of stress became considerably more complex, and the causal mechanisms of this process have become more prominent in research literature over the last few decades. Integration of this new data from biology, genetics and medicine into sociological, anthropological and socio-epidemiological research of stress has changed not only how this research niche conceptualizes and measures stress but also how the role that the society and social structures play in patterned distribution of disease, aging and mortality is understood. Although the link between stress and health is well studied, the mechanisms linking socio-economic status, the stress process and health outcomes have received rather less attention. An online quantitative study (n = 902) carried out in Kyiv during 2020–2021 focused on the question of the SES–stress link in the context of health outcomes. Specifically, the study tested the following propositions: (a) stress affects self-rated health and wellness of individuals; (b) current SES affects individual self-rated health and wellness; (c) individuals from low SES categories face higher current perceived stress levels compared to individuals from higher SES categories; (d) individuals who report having low SES in childhood have higher perceived stress levels during the COVID-19 pandemic compared to their counterparts whose familial socio-economic status was higher when they were children; and (e) having chronic conditions exacerbates individual stress levels.

Keywords: stress, socio-economic status, self-rated health, health outcomes, causal mechanisms, quantitative methods