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**PERCEIVED STRESS AND PSYCHOLOGICAL WELL-BEING:
THE ROLE OF THE EMOTIONAL STABILITY**

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Abstract

Association between stress and psychological well-being are well established in a solid body of research, still the mechanisms of this association stay unrevealed. We hypothesized that emotional stability can affect the association between perceived stress and psychological well-being. In many concepts, emotions are associated with stress and coping, but most of these studies pay attention to the immediate response to stressful event. We approached this question from a perspective of a more stable emotional characteristic - emotional stability. Methods: Scale of perceived stress (Ababkov et.al.), Psychological well-being scale (Ryff), 16 PF personality test (Cattell) - factor C. Sample: 323 adults aged 20-60. First, using regression analysis we confirmed that emotional stability was associated with both perceived stress and psychological well-being. Second, we assessed associations between perceived stress, psychological well-being and emotional stability using structural analysis. Results suggest that perceived stress decreases one's emotional stability that in turn affects psychological well-being. Retest using random subsamples confirmed structural analysis. Our results showed that perceived stress can be associated not only with immediate emotional reactions but with relatively stable personality characteristics such as emotional stability. Our results suggest that associations between perceived stress and psychological well-being can be moderated by emotional stability. Thus high levels of emotional stability can prevent or delay the effect of stress on psychological well-being.

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Keywords: Perceived stress, psychological well-being, emotional stability



1. Introduction

Modern life of adults implies a variety of situations that can cause overload, allostatic load, daily and overall stress. Stress can be associated with a variety of factors and predictors, including physiological, psychological, social and economic variables. Solid body of psychological research uncovered a significant role of various psychological and subjective factors that can be associated with experiences of stress. The questions for stress mechanisms would be if stress can affect relatively stable psychological characteristics or those stable characteristics determine stress resistance and severity of stress experiences.

Adult's life implies high dynamics and intensity of events, constant increase of ambiguous life situations that leads to emotional tension, growing tiredness, overstrain and discomfort. All these issues impact one's health, one's mental and physical activity, and require extensive adaptation resources. On a daily basis one comes across with multiple events that may be perceived as stressful. Solid body of research was focused on the impact of major stressful events on one's functioning since those major events have strong negative effects, they may threaten one's life both mental and physical. The effects of daily stressors need much deeper investigation, and the results still need clarification (Kanner, Coyne, Schaefer, Lazarus, 1981). Nevertheless the power of the daily hassles depends on their perception and evaluation, understanding and attitudes (Sweeney, 2013). From the perspective of transactional model (Lazarus & Launier, 1978), psychological stress evolves when one is estimating external and internal requirements as excessive, when one perceives overstrain, and in mental representation the situation requires more resources than one possesses. In other words, any event can be stressful if perceived as stressful; on the other hand, the same event can be stressful for one person and non-stressful for another. From this perspective Ababkov and Perret suggest objective and subjective characteristics of stressful situation (Ababkov, 2004).

Perceived stress may be moderated by demographic factors such as age and gender, and personality characteristics. Researcher report contradictory results on age differences in stress perception: while some underline that younger adults have higher intensity of stress due to higher speed of life and greater amount of events in general, others suggest that older adults experience more losses, health and financial problems and are more vulnerable to negative stress effects (Babakova, 2017). The data on middle-aged adults is extremely limited. Particularly, in our previous analysis we showed that perceived stress can be moderated by locus of control. Some researchers demonstrate that sensitivity to stressors can change in different periods of life and the specifics of most influential stressor can also differ (Mroczek & Almeida, 2004).

Our previous study revealed that specifics of daily stressors perception was associated with particular age period and developmental tasks of this period (Golovey & Strizhitskaya, 2016). Younger adults were more concerned about their social relationships and feeling of loneliness, middle-aged adults were stressed by family hassles; older adults (45-60) did not demonstrate consistent patterns.

Data on gender differences in reactions to stressors is also controversial. Holahan, Holahan and Belk (1984) reported that frequencies of daily stressors can predict average intensity of vulnerability to diseases in males and high intensity – in females. Scientists associate such differences with different importance of particular life domains for men and women. For women most stressful events were

associated with family while men were more stressed with professional and financial problems (Patton, Goddard, 2006). In aging women demonstrate higher levels of daily stress in all domains (Babakova, 2017). Thus we can conclude that associations of perceived stress and emotional reactivity can be moderated by gender, and gender effects at different ages can also vary.

In the modern studies the effects of stress are moderated and mediated by a variety of factors: self-efficacy, self-esteem, optimism, self-acceptance, locus of control etc. (Aldwin, 2007; Freedy, Hobfoll, 1994). Researchers associate posttraumatic stress with intellect, neuroticism, purpose in life and self-esteem as the predictors of posttraumatic syndrome. Coping with stress is often associated with emotional intelligence and behavioral skills. Particularly emotional stability and coping strategies are associated with better resilience to daily stress (Cox, MacPherson, Enns, McWilliams, 2004).

Summarizing, studies suggest that various personality characteristics, specifically involved into emotional processing of the situation, play significant role in understanding of stress, perceived stress and one's reaction to it. Another important focus of the present study is the association between perceived stress and psychological well-being. Researchers report associations of stress and depression as a negative outcome, but few studies address directly the impact of stress on psychological well-being and potential mechanisms of this association. It is important to note that though, depression and psychological well-being can be associated, still they do not represent two extremes of a continuum (Keyes, 2002; Ryff et al., 2006).

2. Problem Statement

Emotions are included in most human reactions and as such they are included into stress-reactions as well. During stressful events one can feel upset, anxious, distracted etc. At the same time evaluation of an event as stressful is individual and differ due to a variety of factors, particularly, characteristics of the emotional domain. Emotional stability could be one of the possible resources to decrease or mediate the effect of perceived stress on one's functioning.

Many studies report associations of perceived stress and depression. Still absence of depression does not imply mental health or any kind of well-being. We aim to analyse if direct effects of perceived stress on psychological well-being can be found in our sample.

3. Research Questions

The aim of the study was to investigate associations between: perceived stress (PS), psychological well-being (PW) and emotional stability (C). We were interested if perceived stress had direct effects on psychological well-being and if emotional stability can impact the power of this effect.

We have been testing three alternative hypotheses:

1. Emotional stability predicts perceived stress that predicts psychological well-being (model 1).
2. Emotional stability mediates the association between perceived stress and psychological well-being (model 2).
3. Perceived stress predicts psychological well-being that affects emotional stability (model 3).

We were also interested in age, gender and education effects on the associations between our key variables: perceived stress, psychological well-being and emotional stability.

4. Purpose of the Study

Stress is considered to be one of the important challenges of modern society with its high competitiveness and dynamics. Stress can be provoked by both major stressful life events or daily hassles. In both cases individual reaction to the stress is moderated by a variety of mechanisms that determine the power of the stressful event impact on one's functioning. In the present paper we are focusing on the model where emotional stability is associated with perceived stress and psychological well-being.

5. Research Methods

5.1. Participants

A sample consisting of 323 non-clinical subjects has been recruited from the general population via social networks advertisement. Participants have been 116 male, 207 female aged 20 - 60. The mean age of the sample has been 36.8 years (SD = 10.86; range = 20–60 years). Education level has been rather high, with 36.9% having at least a college degree, and 58% having at least a university degree. All participants have been Caucasian.

For larger research purposes our sample was collected in two Russian cities: Saint-Petersburg (N=160) and Arkhangelsk (N=151). These cities were chosen since both of them are quite in the North, but still do not reach the polar circle, they have extended daylight in summer and shortened daylight in winter, these characteristics make physical functioning relatively similar but permit to avoid region-specific effect (Korehova, Novikova, & Solov'ev, 2015).

5.2. Instruments and Procedures

5.2.1. Key variables

Perceived Stress (PS) has been measured with Russian adaptation of Perceived Stress Scale (Ababkov et al., 2016). 10-item scale estimates intensity of perceived stress at the moment of evaluation.

Psychological well-being (PWB) has been measured with Russian short version (18 items) of Psychological Well-being Scale by Ryff (Ryff, 1995; Zhukovskaya, Troshikhina, 2011). For the present analysis we have used only general score of psychological well-being.

Emotional Stability has been administered with 16 PF test (R. Cattell), for the present analysis we have used factor "C" – emotional stability. This factor estimates relatively stable personality trait that describes one's emotional reactions to the situation, we can consider this trait as a typical emotional reaction to the situation (opposite to immediate reaction).

5.2.2. Supporting demographic variables

Age have ranged from 20 to 60 as a continuum, no age groups were specified since the criteria for age groups differentiation appear to be controversial.

Gender has been coded as 0 for males, 1 for females. No alternative genders have been considered or manifested by the participants.

Education has been measured on a scale from 1 to 6 where 1 described no formal education at all and 6 – one or more academic degree (18 years of education or more). Most participants ranged from 4 to 6 (10 to 18 years of formal education).

We have analysed cross-sectional data using descriptive, correlation, regression and structural analysis.

6. Findings

The first step of our analysis has been to confirm that perceived stress, psychological well-being and emotional stability have been intercorrelated in our data.

Analysis of descriptive statistics has shown that subjects in our sample had moderate levels of perceived stress and psychological well-being, their scores on emotional stability have been high, and thus we can characterize them as emotionally stable. All three characteristics have been significantly correlated (Table 1).

The correlations presented in the Table 1 are consistent with major beliefs that perceived stress is negatively associated with psychological well-being and emotional stability, and psychological well-being and emotional stability are positively correlated.

Table 01. Type your title here

Measurement	1	2	3
(1) Perceived stress	1		
(2) Psychological well-being	-0,178**	1	
(3) Emotional stability	-0,303**	0,431**	1
M(SD)	30,51(4,90)	66,97(7,70)	8,37(2,18)
Measurement	1	2	3

** p≤0,001

Next stage of the analysis has aimed to identify if perceived stress and emotional stability have been predictors of the psychological well-being and if both characteristics in one model can maintain significant effects.

Regression analysis has shown that perceived stress (PS) predicted psychological well-being (PW), and emotional stability (C) predicted psychological well-being (PW), but in the model with two independents C and PS, only C was significant (Table 2).

Table 02. Regression Analysis for Perceived stress (PS), Emotional stability (C) and Psychological-well-being (PW)

β	p	R ²
Model 1		
-0,178	0,001	0,032
Model 2		
0,431	0,000	0,185
Model 3		
0,415	0,000	0,188
-0,053	0,321	

Model 1: Dependent – PW, independent - PS

Model 2: Dependent – PW, independent - C

Model 3: Dependent PW, independents – PS, C

Thus the regression analysis suggests that though both perceived stress and emotional stability have been significantly correlated with psychological well-being the power of emotional stability effect was greater and eliminated the significance of perceived stress' effect. Given that perceived stress, emotional stability and psychological well-being have been significantly intercorrelated but have not confirmed the predictive power in regression analysis, we hypothesized that there might be a moderation or mediation effect within those variables.

Our regression analysis has been elaborated by testing structural models. There have been three alternative interpretations we have been testing. First, we have assumed that emotional stability predicts perceived stress. We have suggested that emotionally unstable people could report higher levels of perceived stress. This idea has been consistent with the studies that report neuroticism as a predictor of posttraumatic stress (Cox, MacPherson, Enns, McWilliams, 2004).

Second alternative model has been grounded on the idea that stress and emotional stability share the same emotional component and thus, fully or in part, the association between perceived stress and psychological well-being could be explained by this shared component.

The third model has aroused from the idea that when psychological well-being decreases one can experience negative emotions and they might lead to changes in emotional stability.

The analysis has shown that first and third models have confirmed significant associations between the variables in the models, but have failed to fit our data (Table 3).

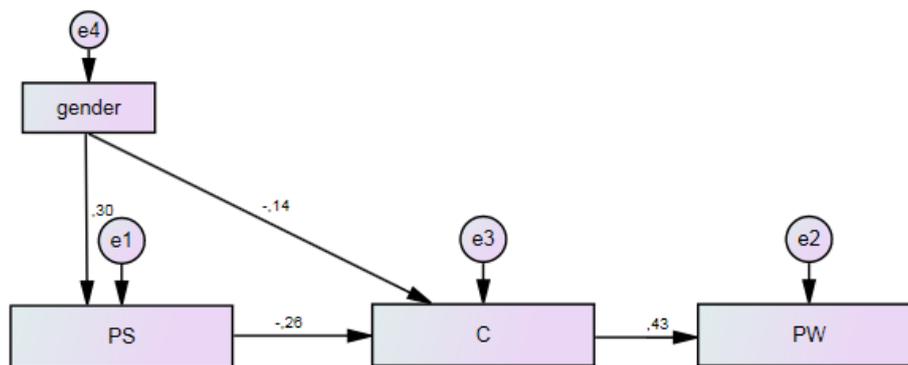
In the second model perceived stress have predicted emotional stability but not psychological well-being, and emotional stability has predicted psychological well-being. Thus our model has demonstrated full mediation effect of emotional stability.

Table 03. Fit indexes for alternative models

χ^2	<i>df</i>	CFI	RMSEA	PCLOSE
Model 1				
56.617	1	.415	.416	.000
Model 2				
.991	1	1.000	.000	.490
Model 3				
21.693	1	.782	.254	.000

Note. Number of parameters to be estimated: 8 (in all models); *df* = degrees of freedom; CFI = comparative fit index; RMSEA = root mean square error of approximation; PCLOSE = p of close fit.

Finally, we have analysed if demographic variables such as age, gender and education can impact the variables in the model that fitted the data (model 2). We have revealed that age and education have not had significant effects on any of the variables tested, gender has been associated with perceived stress (males have had higher education) and emotional stability (females have been more emotionally stable). The final model presented in the figure 1.



Note. (Chi-square=1,605; df=2; p=0,448; CFI=1,000; RMSEA=0,000; PCLOSE=0,677)

Figure 01. Final model of the associations between perceived stress, emotional stability and psychological well-being.

7. Conclusion

Our results have shown that emotional stability fully mediates the effect of perceived stress on psychological well-being and gender moderates the levels of perceived stress and emotional stability. Our data suggests that perceived stress itself does not have direct effects on psychological well-being. We believe that perceived stress and emotional stability share emotional component and through this shared component perceived stress reveals significant associations with psychological well-being in correlation or linear regression analysis. Our data points out that perceived stress significantly decreases emotional stability. In other words, perceived stress makes us more reactive to negative events, it makes one less adaptive, provokes less mature reactions and decisions. So we can assume that changes in emotional stability impact the psychological well-being through the emotional, cognitive and behavioural outcomes it is associated with.

We have not been able to confirm the model, where emotional stability predicted the perceived stress. Thus we can conclude that the intensity of perceived stress is not associated with initial characteristics of one's emotions. This result leads to a promising conclusion that emotionally stable people may be as vulnerable to negative effects of stressful events as emotionally unstable.

We have revealed the moderating effect of gender on perceived stress and emotional stability. These findings suggest that women are less resilient to perceived stress and they have lower levels of emotional stability. Thus we can predict that though both men and women experience negative effects of perceived stress on emotional stability and psychological well-being, women occur to be even more vulnerable.

Our findings are somewhat consistent with previous results about age effect on perceived stress. In our sample aged 20-60 no direct age effect has been found. This result can be interpreted in several ways. First, age effect can follow curvilinear pattern. In this case linear regression would not identify effects of age on perceived stress. Second, perception of stress may be defined by a variety of factors that are not directly correlated to age; among such factors we can assume specifics of lifestyle, professional occupation, personality characteristics.

The main finding of our study is that perceived stress have not had the direct effect on psychological well-being. Still it could be associated with broader effects of psychological functioning.

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