Positive mental health and adjustment following life-stressors among young adults

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Abstract

Adjustment disorder is among the most diagnosed mental disorders worldwide. However, until recently adjustment disorder was largely neglected in mental health research. Therefore, factors associated with adjustment disorder are highly understudied. The current study aimed to reveal the role of positive mental health (PMH) as a protective factor in the development of adjustment disorder symptoms when exposed to life stressors in young adulthood. Furthermore, the study looked at whether overall PMH plays a unique role when linking life stressors and adjustment disorder symptoms, or whether its role is comparable to that of subjective well-being (SWB). The sample consisted of 299 university students (age: M (SD) = 20.53 (2.06); 35.7% female). A structural equation modelling approach was used for data analysis. The results indicated that facing more life stressors over the last 12 months was related to lower levels of PMH and SWB. However, higher levels of PMH, but not SWB, were significantly linked to lower levels of adjustment disorder symptoms. The findings of the current study suggest that in emerging adulthood when young people face many challenges, promoting positive mental health may be an important step when fighting against the development of mental problems.

Keywords Stress · Adjustment · Positive mental health · Subjective well-being · Stress-related disorders

Stressful life situations can lead to the development of adjustment disorder, which is generally classified as stress response syndrome (Maercker et al. 2013). Adjustment disorder is among the most diagnosed mental disorders worldwide. However, until very recently adjustment disorder was often neglected in mental health research. The 11th edition of the International Classification of Diseases (ICD-11) by the World Health Organization (World Health Organization 2018) included an updated formulation of adjustment disorder symptoms. Proposals for an update of adjustment disorder symptoms (Maercker et al. 2013) facilitated research on adjustment disorder (Kazlauskas et al. 2017); new measures were proposed (Kazlauskas et al. 2018); new psychosocial interventions

were developed and evaluated (Eimontas et al. 2018; Skruibis et al. 2016).

A growing number of studies also addressed the lack of knowledge about the factors associated with adjustment disorder. As of recently, there has been a growing understanding about the possible role of positive mental health (PMH), which reflects high levels of emotional and mental well-being (Keyes et al. 2002), in the field of stress-related disorders. Previous studies demonstrated PMH to buffer the negative effect of daily stressors on mental health and, therefore, to confer resilience (e.g., Brailovskaia et al. 2020). Therefore, it could be anticipated that PMH might also protect against the development of adjustment disorder symptoms after exposure to life stressors. However, to the best of our knowledge, the link between PMH and adjustment disorder has not been tested in empirical research.

Furthermore, there is a lack of adjustment disorder studies among different risk groups (Zelviene and Kazlauskas 2018). The recent formulation of emerging adulthood also identified an increased risk of mental disorders among young adults and students (Arnett et al. 2014). There is evidence that life stressors may diminish mental well-being in emerging adulthood and may contribute to the enhanced risk of the

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development of mental disorders, such as depression and anxiety (Schönfeld et al. 2016; Schönfeld et al. 2018). However, it remains unclear how life stressors are related to both PMH and adjustment disorder symptoms, and whether PMH can be considered as a unique protective factor against the development of adjustment disorder symptoms.

Therefore, the purpose of the current study was to evaluate the role of PMH on adjustment disorder symptoms following life-stressor experiences in the sample of young adults in Lithuania. In addition, it was investigated whether overall PMH plays a unique role when linking life stressors and adjustment disorder symptoms or is rather comparable to the role of other well-established constructs such as current subjective well-being (Topp et al. 2015). As suggested by previous research (e.g., Teismann et al. 2018a), subjective well-being (SWB) was considered as an alternative mental health indicator (Bech 2012). The interplay between PMH and SWB was investigated. Moreover, when testing the links between exposure to life stressors, mental health, and adjustment disorder, participants' physical health, which is closely linked to both exposure to life stressors (e.g., Tosevski and Milovancevic 2006) and mental health (e.g., Aarons et al. 2008), was additionally taken into account.

Method

Participants and Procedures

In total, 300 university students aged between 18 and 33 participated in the current cross-sectional study. Data collection took place in another institution than that of the researchers, and none of the students from the sample were associated with the research team. Data were collected in 2019 by providing groups of participating students with printed questionnaires at the university during regular lecture hours. A convenient sampling method was used; all undergraduate students who voluntarily agreed to participate were provided with the questionnaires. Data from one participant were excluded from further analyses because of missing data on all measures; therefore, the final study sample consisted of 299 young adults (age: M $(SD) = 20.53$ (2.06); 35.7% women). Informed written consent was obtained from all participants.

Measures

Stressor Exposure and Adjustment Disorder Symptoms

The Brief Adjustment Disorder Measure (ADNM-8) was used to measure stressor exposure and adjustment disorder symptoms (Kazlauskas et al. 2018). The ADNM comprises two parts. The first part includes 17 life stressors, and participants were asked to indicate if they experienced any of the listed stressors over the last 12 months, each rated 0 (*no*) or 1 (*yes*). The sum of these items was used as an indicator of exposure to life stressors.

The second part of the ADNM-8 comprises eight items measuring ICD-11 adjustment disorder symptoms on a 4-point Likert scale, ranging from 1 (*never*) to 4 (*often*).

Thereby, four items measure adjustment disorder symptoms of preoccupation (e.g., "I have to think about the stressful situation a lot and this is a great burden to me"), and four items measure symptoms of failure to adapt (e.g. "Since the stressful situation, I do not like going to work or carrying out the necessary tasks in everyday life"). The total ADNM-8 symptoms score ranges from four to 32, with a higher score indicating more intense adjustment disorder symptoms. The Lithuanian version of ADNM-8 was previously validated in a large sample of help-seeking participants (Kazlauskas et al. 2018). This instrument is one of the most used measures in ICD-11 adjustment disorder research (Kazlauskas et al. 2017). In the current sample, two factor CFA yielded a very good model fit ($\chi2$ (17) = 21.33, $p = .21$, CFI/TLI = .995/.993, RMSEA [90% CI] = .029 [.000, .063], SRMR = .023). The overall scale had a high internal consistency (Cronbach's $\alpha = .90$).

Positive Mental Health

The Positive Mental Health Scale (PMH-Scale; Lukat et al. 2016), which comprises nine items, was used to measure positive mental health. The PMH-Scale measures emotional, cognitive, and social aspects of positive mental health (e.g., "I feel that I am actually well equipped to deal with life and its difficulties"), rated on a 4-point Likert scale ranging from 0 (*do not agree*) to 3 (*agree*). Single-factor CFA yielded a very good model fit (χ^2 (24) = 35.48, $p = .06$, CFI/TLI = .983/.974, RMSEA [90% CI] = .040 [.000, .066], SRMR = .036). The PMH-Scale had a high internal consistency (Cronbach's $\alpha = .88$).

Subjective Well-Being

Subjective well-being (SWB) was measured using the brief five-item self-report Well-being Index (WHO-5) by World Health Organization (WHO). The WHO-5 measure has been translated into more than 30 languages and is a widely used measure for assessing well-being (Topp et al. 2015). Participants were asked to rate how well each of the five statements suited their state over the last 2 weeks (e.g., "I have felt cheerful and in good spirits"). Each statement was rated on a 6-point Likert scale ranging from 0 (*at no time*) to 5 (*all of the time*). In the current sample, single-factor CFA yielded a very good model fit (χ^2 (4) = 3.56, $p = .47$, CFI/TLI = 1.000/ 1.002, RMSEA [90% CI] = .000 [.000, .083], SRMR = .012). The measure had a high internal consistency (Cronbach's $\alpha = .87$).

Subjective Health

Subjective health was measured with a single item "Please indicate your current health status". The item was rated on a 5-point Likert scale ranging from 1 (*very poor*) to 5 (*very good*). Single item subjective health measures were proven to be adequate for use in research and correlated well with longer measures as well as other subjective health outcomes (Bowling 2005; Brailovskaia and Margraf 2018; Brailovskaia et al. 2018).

Data Analyses

The study models were tested by applying the Structural Equation Modelling (SEM) approach in Mplus 8.2. (Muthén and Muthén 1998–2017). When testing the models, we used Maximum Likelihood (ML) estimator using a bootstrap estimation approach with 5000 samples (Shrout and Bolger 2002). Model fit was evaluated by using the Comparative Fit Index (CFI), the Tucker–Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA), following the goodness-of-fit recommendation provided by Little (2013); namely, CFI/TLI values higher than .90 indicated an acceptable fit and values higher than .95 represented a very good fit; RMSEA values below .08 indicated an acceptable fit and values less than .05 suggested a good fit. We tested both direct and indirect (or mediated) links between the study variables.

Results

Preliminary Analyses

For the preliminary analyses, we calculated means, standard deviations, skewness, kurtosis, and the correlation coefficients of study variables in the sample of Lithuanian university students. The results of the preliminary analyses are presented in Table 1. All study variables were normally distributed, as the coefficients of skewness and kurtosis were within the range of ±2 (Gravetter and Wallnau 2014), and significantly interrelated.

Testing Alternative Study Models

The purpose of the current study was to test the possible protective role of positive mental health (PMH) and subjective well-being (SWB) in the development of adjustment disorder symptoms when exposed to life stressors. Three alternative models were tested. In all models, adjustment disorder symptoms were predicted by exposure to life stressors. In the first model, adjustment disorder symptoms were also predicted by PMH. In the second model, the additional predictor of adjustment disorder symptoms was SWB. In the third model, both PMH and SWB were added as predictors of adjustment disorder symptoms. When estimating the models, PMH and/or SWB were also predicted by life stressors. Thereby, the estimation of the indirect effects of life stressors through PMH and SWB was included in the analysis. The latent variables of PMH, SWB, and adjustment disorder symptoms with multiple indicators and an observed composite life stressors variable were used for the model estimation. When estimating the models, we also controlled for possible gender effects on adjustment disorder symptoms as well as for subjective health effects on PMH and/or SWB.

The estimation of all three models yielded a good model fit (see Table 2). All models explained significant levels of variance in all variables ($p < .001$). Particularly, exposure to life stressors together with subjective health, both in models 1 and 3, explained 40% variance in PMH; and, both in models 2 and 3, these variables explained 32% variance in SWB. In models 1, 2, and 3, all predictors explained 50%, 54%, and 56% of the variance in adjustment disorder symptoms, respectively.

The results of the current study indicate that exposure to life stressors is significantly negatively linked to both PMH and SWB (see Fig. 1). When estimating the models 1 and 2, we also found that both PMH and SWB are significantly negatively related to adjustment disorder symptoms. However, when adding both PMH and SWH to the same model (model 3), we found that higher levels of PMH, but not SWB, were significantly linked to lower levels of adjustment disorder symptoms. When estimating the model 3, we additionally found that the indirect link between exposure to life stressors

Table 1 Pearson correlation coefficients and descriptive statistics of study variables

Variables	M	SD	γ_1	γ_2	Correlations				
					1.	2.	3.	4.	5.
1. Life stressors	4.04	2.59	.48	−.19	–				
2. Positive mental health	1.96	.58	−.41	−.05	−.37	–			
3. Subjective well-being	2.64	.97	−.29	−.30	−.38	.72	–		
4. Adjustment disorder symptoms	2.36	.71	.30	−.50	.50	−.58	−.57	–	
5. Subjective health	3.74	.92	−.73	.57	−.37	.54	.49	−.38	–

$N = 299$, M = mean, SD = standard deviation, γ_1 = skewness, γ_2 = kurtosis. All correlation coefficients are significant at $p < .001$

Table 2 Model fit indices of three alternative study models

	χ^2 (df)	p	CFI	TLI	RMSEA [90% CI]	SRMR
Model 1	263.83 (160)	.000	.962	.956	.047 [.036, .056]	.045
Model 2	147.73 (96)	.001	.977	.972	.042 [.028, .055]	.038
Model 3	444.82 (260)	.000	.951	.944	.049 [.041, .056]	.046

$N = 299$, df = degrees of freedom, CFI = Comparative Fit Index, TLI = Tucker-Lewis Index, RMSEA = Root Mean Square Error of Approximation, SRMR = Standardized Root Mean Square Residual
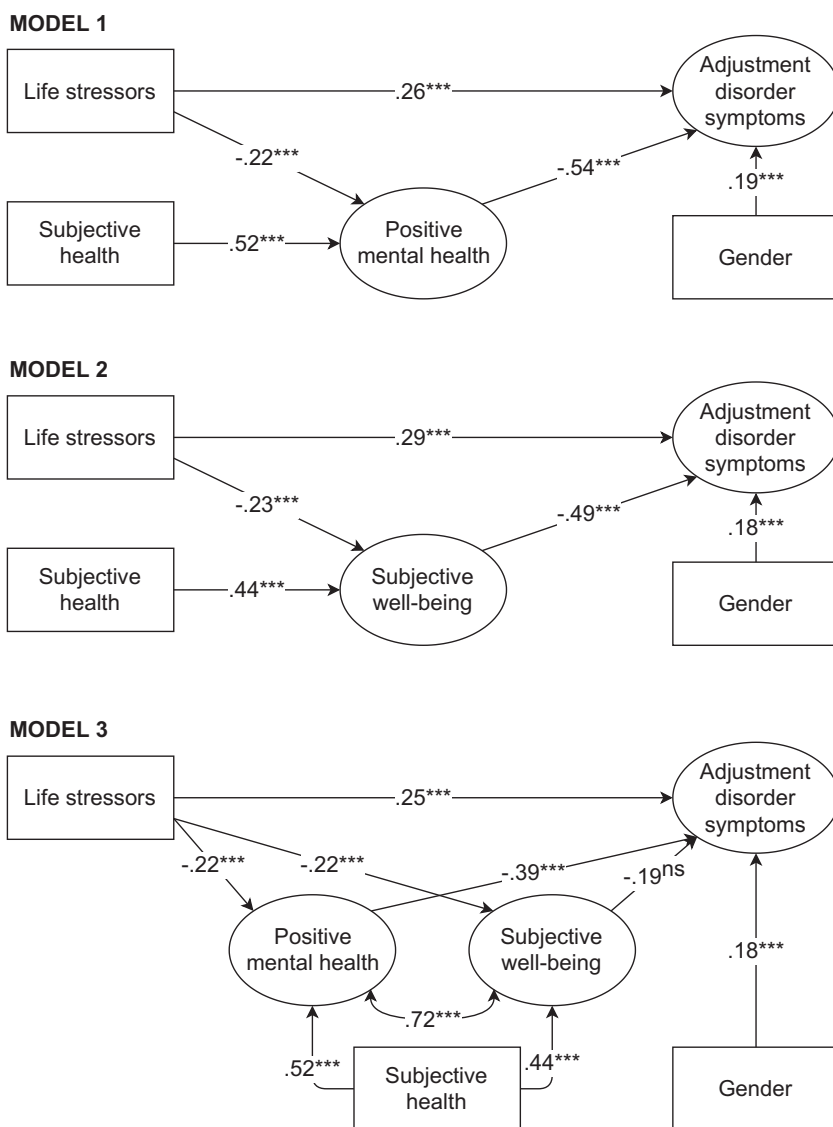
and adjustment disorder symptoms through PMH (.08 [.03, .15]) is significant but weak. As expected, in all three models, exposure to life stressors was significantly positively linked to adjustment disorder symptoms; subjective health significantly positively predicted PMH and/or SWB. Also, significantly more women, compared to men, reported higher levels of adjustment disorder symptoms.

Discussion

The aim of the current study was to investigate the role of positive mental health (PMH) as a protective factor in the development of adjustment disorder symptoms when exposed to life stressors. Overall, it was found that PMH may be negatively affected by exposure to life stressors in the same manner as other positive aspects of mental health, particularly subjective well-being (SWB). However, it was also shown that PMH can be considered as a unique protective factor against the development of the adjustment disorder symptoms after exposure to life stressors.

Absence of significant link between SWB and adjustment disorder symptoms in the present study provides supporting evidence that PMH is a unique and separate construct. There have been attempts to equate subjective well-being, as measured with the WHO-5 scale (Topp et al. 2015), to positive

Fig. 1 Links between exposure to life stressors and adjustment disorder symptoms through positive mental health and subjective well-being. *Note.* $N = 299$, ***$p < .001$

mental health (Bech 2012). However, having in mind the short period of time that is considered when responding to the questions as well as the wording of items, SWB presumably is a reflection of solely hedonic well-being or positive affect (Bech et al. 2003), while PMH is seen as a more complex phenomenon that encompasses both hedonic and eudaemonic (reflecting human potential and optimal functioning) aspects of well-being (Keyes 2005). Additionally, low SWB is seen as an indicator of mental illness (Henkel et al. 2003), while PMH is not considered a mere positive pole of a single dimension of mental health, where psychopathology would represent a negative pole. Rather, PMH is seen as a separate factor that is negatively linked to psychopathology (Teismann et al. 2018a, 2018b; Westerhof and Keyes 2010). In summary, the current results suggest that PMH is a potential intervention target when dealing with difficult situations in life and adds to the growing body of literature that has repeatedly shown that positive mental health may play an important role as a buffering factor when dealing with mental illness (e.g., Teismann et al. 2018b).

Considering the potential protective impact of PMH on the development of adjustment disorder symptoms that was shown in the present study, it seems greatly important to assess the PMH level during clinical pre-screenings and to develop programs that may foster PMH. Particularly, clinical patients with decreased SWB might benefit from such intervention programs. These programs could improve the patients' resilience level and thus contribute to the success of the therapeutic process. Pupils and university students who often experience high levels of academic stress and feel overwhelmed by high pressure to perform or by grade competition among peers (Misra and McKean 2000) might also significantly benefit from intervention programs that enhance their level of PMH. Individuals with high PMH level often develop functional mechanisms to cope with stressful situations. They overcome interpersonal conflicts, engage in supportive social interactions, and master daily requirements (Lukat et al. 2016), which decreases their risk of developing adjustment disorder symptoms. Therefore, based on the framework of current findings, intervention programs are required that would contribute to the increase of the PMH level. These programs might, on the one hand, reduce adjustment disorder symptoms in clinical patients and, therefore, should be integrated into the therapeutic setting. On the other hand, the integration of such programs in school or university education might prevent younger individuals in particular from developing adjustment disorder symptoms by the means of conferring their resilience.

It should be noted that using a cross-sectional correlational study design in the current work has only allowed for hypothetical assumptions of the causal links between PMH and adjustment disorder. Therefore, these links must be further investigated in longitudinal and experimental studies. Furthermore, adjustment disorder symptoms were conceptualized as a stress response to life stressors based on previous theoretical formulations (Zelviene and Kazlauskas 2018) which used a dimensional approach to stress reactions and viewing adjustment disorder symptoms as having a potential to capture subclinical levels of reactions to a stressful life situation. Young adults may have a higher prevalence of adjustment disorder as suggested by theoretical insights and empirical studies from emerging adult developmental perspective. Additionally, university degree and health-related stressors were found to be among the risk factors for adjustment disorder (Zelviene et al. 2020). Replication of current findings in clinical samples or high-risk samples could provide more evidence regarding the associations among the tested variables.

It should be taken into account that a self-report questionnaire was used for data collection and social desirability bias of the responses cannot be excluded. Additionally, the investigated sample consisted of more male than female participants which could influence our findings. Therefore, the generalizability of the current results is limited.

Conclusion

Despite the limitations, the current study presents unique evidence on positive links between positive mental health and adjustment disorder symptoms when exposed to life stressors in emerging adulthood. It suggests that in emerging adulthood, when young people face many challenges, promotion of positive mental health, that is, fostering positive affectivity and tapping into personal potential, may be an important step in preventing the development of mental problems.

Data Availability The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict interest.

Ethical Approval All procedures performed in the study were in accordance with the ethical standards of the Vilnius University Ethics Committee of Psychological Research (Permission to conduct psychological research No. 30) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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