The Relationship between Eudaimonia and Mental Health

Odnos između eudemonije i mentalnog zdravlja

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──────────────── Summary ────────────────

Objectives: This study explores the role of eudaimonia in general mental health and its components, positive and negative mental health. **Subjects and Methods**: A total of 318 undergraduate students, of which 201 (63.2%) were females, participated in this study. Questionnaires were used to measure eudaimonia and various facets of mental health. Descriptive statistics, correlation, and hierarchical regression analyses were used to analyze the data. **Results**: Regression analyses demonstrated that after controlling for the effects of sociodemographic variables, higher eudaimonia contributes to greater general mental health (R^2=.09, p<.001) and more pronounced positive mental health functioning (β=.09, p<.0001) while it decreases the presence of negative mental health (R^2=-.08, p<.05). **Conclusions**: The results support the notion that being intentional in life and giving purpose to everyday pursuits is associated with mental health.Component-level analyses indicate that eudaimonia shapes general mental health by being linked to increased positive mental health and decreased mental health problems.

Keywords: eudaimonia, general mental health, positive mental health, negative mental health

──────────────── Sažetak ────────────────

Cilj: U ovom se istraživanju ispitivala uloga eudemonije u općem mentalnom zdravlju, kao i njegovim komponentama, pozitivnom i negativnom mentalnom zdravlju. **Ispitanici i metode**: Ukupno 318 studenata prijediplomskih studija, od kojih 201 (63,2%) žena sudjelovali su u istraživanju. Eudemonija i različiti aspekti mentalnog zdravlja ispitani su primjenom upitnika. Za analizu podataka korištene su deskriptivna statistika, korelacije i hijerarhijske regresijske analize. **Rezultati**: Regresijske analize pokazale su da nakon kontrole efekata sociodemografskih varijabli, viša razina eudemonije doprinosi boljem općem mentalnom zdravlju (R^2=.09, p<.001) na način da je povezana s izraženijim pozitivnim mentalnim zdravljem (β=.09, p<.0001) i manje prisutnim negativnim mentalnim zdravljem (R^2=-.08, p<.05). **Zaključak**: Rezultati podupiru mišljenje da je namjernost u životu i davanje svrhe svakodnevnim aktivnostima povezano s mentalnim zdravljem. Analize na razini komponenati pokazuju da eudemonija oblikuje opće mentalno zdravlje povezujući se s poboljšanim pozitivnim mentalnim zdravljem i s manje mentalnih tegoba.

Ključne riječi: eudemonija, opće mentalno zdravlje, pozitivno mentalno zdravlje, negativno mentalno zdravlje

Introduction

Recent decades have been marked by the positive psychology movement and the importance of scientific research on well-being. Throughout the past, well-being has been investigated in two different ways, as eudaimonia, a type of well-being which arises from fulfillment of one's potential to achieve higher goals, or hedonia, a well-being type which arises from achieving pleasure and comfort.[1]

Although different, both types of well-being have been shown to contribute to physical health; from greater immunological and neuroendocrinological processes over lower mortality rates to fewer reported symptoms of illness.[2,3]

Considering the number of studies which evidenced the positive effects of well-being on physical health, the findings on the relationship between well-being and mental health seem unclear. Contrary to popular belief, research suggests that well-being does not seem to guarantee mental health and vice versa. For example, Bergsma and Veenhoven[4] found out that well-being levels reported by people living with mental disorders are comparable to groups having no mental disorders. People diagnosed with substance abuse report having well-being levels as those without any disorder[5] while 80% of people with anxiety disorder diagnosis and no comorbidities have a sense of well-being frequently as those with no mental illness.[4]

In addition, less is known about the contribution of eudaimonic well-being to mental health although its effects on physical health have been investigated largely. What is known so far is that after controlling for the relevant variables, the self-reports of meaning i.e. eudaimonia, are associated with global positive affect.[6] The relationship between meaning in life and distress has also been established in research with cancer patients[7] while the absence of eudaimonia represents a risk factor for depression.[8] Wood and Jospeh's[9] longitudinal study on the association between eudaimonia and depression revealed that after accounting for the effects of personality, and demographic and medical variables, low eudaimonia predicted depression 10 years later.

Some insight into the role of eudaimonia on mental health can be made indirectly through research that assessed the effectiveness of therapeutic interventions built on the eudaimonic conceptualizations of life on symptoms of deteriorated mental health functioning. Mindfulness-based cognitive therapy, as one of those approaches, is effective in reducing depressive, anxiety, and somatic symptoms while improving the quality of life.[10] Besides, this approach reduces the risk of relapse by 40 to 50 % for those who experienced three or more episodes of depression.[11] Similarly, community programs with eudaimonic interventions for older adults showed success with decreased psychological distress[12] while 10% of adults included with a diagnosis of depression showed flourishing 10 years after[13] also showing the sustainability of these programs.

Despite the attempts made in the past regarding the effects of eudaimonia on mental health, the literature falls short on research examining this association. Therefore, this research aims to look into the role of eudaimonia in mental health.Some argue that the attempts to test eudaimonia's predictive power on mental health should not include measures of mental illness only, but positive mental health measures as well[14] thus, mental health will be examined taking into account general mental health status along with its two dimensions, positive mental health, and negative mental health. The hypothesis to be tested is that eudaimonia predicts greater general mental health through its association with greater positive mental health and a lower degree of negative mental health problems.

Subjects and methods

Ethics statement

This study complies with the Declaration of Helsinki and was performed according to the approval of the Ethics Committee of the Faculty of Humanities and Social Sciences, University of J. J. Strossmayer in Osijek, Croatia (Reference Number: 2158-83-02-23-2, CLASS: 034-04/23-04/379). All the participants were given verbal and written information about the study and gave their consent to participate along with their data to be used for research purposes.

Subjects

In total 318 randomly selected students from the three faculties of the University of J. J Strossmayer in Osijek took part in the study, of which 117 (36.8%) were male and 201 (63.2%) were female. The sample consisted of students from the Faculty of Law (30,2%), Faculty of Agriculture (32,6%), and Faculty of Economics (37,2%). The majority of subjects were students in the secondary year of undergraduate courses (67,4%) while fewer students were in the first year of undergraduate courses (32,6%). The participant's age range was 18 to 30 years, with a mean age of $M = 19.80$ ($SD = 1.34$). Considering socioeconomic status, 6.3% of participants reported below-average socioeconomic status, 74.8% believed to have average, and 18.9% of participants disclosed having above-average socioeconomic status.

Measures

Sociodemographic Questionnaire

The sociodemographic questionnaire was

employed to gather information on gender, age, the year of study, and university a participant is attending as well as their socioeconomic status.

Eudaimonia Scale from Hedonic and Eudaimonic Motives for Activities (HEMA)

Eudaimonia was measured with a eudaimonia subscale (4 items) taken from The Hedonic and Eudaimonic Motives for Activities.[15] Participants are asked to respond by indicating the degree to which they approach daily activities with the stated intentions. The types of items in this scale are „Seeking to pursue excellence or personal ideal?" and „Seeking to do what you believe in?".The answers are given on a seven-point scale (from 1- completely false to 7- completely true). The composite result is determined by summing all the answers, with a higher score indicating a greater degree of eudaimonia. Internal-type reliability for eudaimonia scale is $\alpha = .76$.

Mental Health Inventory (MHI-38)

Mental health was defined using The Mental Health Inventory,[16] a questionnaire designed to assess the general mental health and two-dimensional specifications of mental health, positive and negative mental health. The Negative Mental Health Scale (23 items) assesses symptoms of anxiety, depression, and loss of an individual's behavioral/emotional control, while items which measure positive mental health (15 items) are focused on the evaluation of emotional relationships and general positive affect of a person. All of the items, except two, are scored on a six-point scale (range 1-6) while the two remaining items are scored on a five-point scale (1-5; on the Negative Mental Health Scale). The results are determined by summing up the responses whereas a higher score indicates a greater degree of general (positive or negative) mental health. The Cronbach alpha for the negative mental health scale was .94 and .91 for the positive mental health scale whilst for the global mental health index measure is Cronbach alpha was .96.

Design

Three of the eleven faculties that are part of the University of J. J. Strossmayer in Osijek were randomly selected as well as its departments from the total number of the existing ones within the chosen university until the desired number of participants was obtained. The study aimed at a sample of 300 or more subjects to increase the accuracy of conclusions drawn from the results although the power analysis indicated three times smaller sample is sufficient for the study's purpose. An approximately equal number of subjects from each university is attempted to be obtained. The data collection was cross-sectional. Students were approached during core module lectures as a means of taking hold of all students attending the course. At the beginning of the session, participants were given general instructions to get familiar with the aim of the study along with their rights before they consent to participate in the research. They were also advised to read the instructions of the instrument before answering the questions.

Data Analysis

All statistical analyses were conducted using SPSS 20 computer software. Descriptive statistics were used to summarize the data. A correlation analysis was used to assess the extent to which research variables were interrelated. Hierarchical regression analysis was performed to assess the predictive value of eudaimonia in the explanation of mental health and its domains.

Results

Descriptive statistics summarized the data of the research variables (Table 1).

The investigation of average values of research variables indicated that participants reported moderate levels of all aspects of mental health:general mental health as well as positive mental health, and negative mental health. Eudaimonia, on the other hand, was slightly higher in the sample of the study considering the theoretical range of the results.

Pearson correlation coefficients were calculated (Table 2) to look into the correlations between research variables.

Age, Gender, and Socio-demographic status were sociodemographic variables that correlated with eudaimonia and different aspects of mental health. Older participants in the study sample had higher levels of eudaimonia, general mental health, and fewer mental health issues. Females had a greater tendency to experience mental health problems. High socioeconomic status was associated with greater general mental health and higher positive mental health along with fewer negative mental health symptoms.

Eudaimonia is weakly but statistically significantly related to general mental health and its components, positive and negative mental health. The

greatest correlation was found between eudaimonia and positive mental health. The higher the eudaimonia, the greater general mental health and positive mental health. On the other hand, higher eudaimonia was associated with fewer mental health issues.

Table 1 Descriptive data of the examined variables (N=318)
***Tablica 1** Deskriptivni podaci ispitivanih varijabli (N=318)*

	M	SD	Skew	Kurt	T_{min}	T_{max}	Min	Max
General mental health *Opće mentalno zdravlje*	157.11	27.33	-.29	-.09	76	223	76	223
Negative mental health *Negativno mentalno zdravlje*	61.99	17.38	.63	.72	25	129	25	223
Positive mental health *Pozitivno mentalno zdravlje*	53.10	11.62	-.01	-.27	19	84	19	84
Eudaimonia *Eudemonija*	23.24	3.16	-.71	.95	10	28	10	28

Note. M mean, *SD* standard deviation, *Skew-* skewness, *Kurt-* kurtosis, *T_{min}* theoretical minimum, *T_{max}* theoretical maximum, Min- obtained minimum, Max- obtained maximum
Legenda. M-aritmetička sredina, SD-standardna devijacija, Skew- indeks asimetričnosti, Kurt- indeks spljoštenosti, T_{min} teoretski minimum, T_{max} teoretski maksimum, Min- ostvareni minimum, Max- ostvareni maksimum

Table 2 Correlation coefficients between the examined variables
***Tablica 2** Korelacijski koeficijenti između ispitivanih varijabli*

	1.	2.	3.	4.	5.	6.	7.	8.
1. Gender *Spol*	/	-.03	.23**	-.08	.00	.13*	-.07	-.11
2. Age *Dob*		/	.38**	-.01	.11*	-.11*	.09	.11*
3. Year of study *Godina studiranja*			/	.13*	.05	-.02	.02	.02
4. SES *Socioekonomski status*				/	-.02	-.20**	.16**	.19**
5. Eudaimonia *Eudemonija*					/	-.13*	.23**	.18**
6. Negative mental health *Negativno mentalno zdravlje*						/	-.77**	-.96**
7. Positive mental health *Pozitivno mentalno zdravlje*							/	.91**
8. General mental health *Opće mentalno zdravlje*								/

Note. *p<.05, **p<.01; Gender: 1=male, 2=female
Legenda. *p<.05, **p<.01*; Spol: 1=muškarci, 2=žene*

To examine the contribution of eudaimonia to general mental health and its components hierarchical regression analyses were performed, with sociodemographic variables being controlled. Sociodemographic variables included in the analyses were those which significantly correlated with other variables of interest. Thus, age, gender, and sociodemographic status were entered in the first step of the analyses while eudaimonia was entered in the second step. The results of these analyses can be found in Table 3.

As it can be seen the results show that eudaimonia significantly contributes to general mental health, as well as positive and negative mental health. A closer examination of the results reveals that after controlling the effects of sociodemographic variables (age, gender, socioeconomic status) eudaimonia explains in total 3% variance ingeneral mental health, 5% variance inpositive mental health, and 1% negative mental health. High eudaimonia contributes to greater general mental health and positive mental health, and it decreases mental health issues.

Table 3 Results of hierarchical regression analyses in which the contribution of eudaimonia to the general mental health, negative and positive mental health has been tested with sociodemographic variables being controlled
Tablica 3 *Rezultati hijerarhijskih regresijskih analiza kod ispitivanja doprinosa općem mentalnom zdravlju, negativnom i pozitivnom mentalnom zdravlju nakon kontrole efekata sociodemografskih varijabli*

Predictor *Prediktor*	General mental health *Opće mentalno zdravlje*	Negative mental health *Negativno mentalno zdravlje*	Positive mental health *Pozitivno mentalno zdravlje*
	β	β	β
Step1 ***Korak 1***			
Age *Dob*	.11*	-.11*	.09
Gender *Spol*	-.09	.11*	-.05
SES *Socioekonomski status*	.19**	-.19***	.15*
R²	.06***	.07***	.04*
ΔR²	-		-
F	6.56***	7.38***	3.87*
Step 2 **Korak 2**			
Age *Dob*	.09	-.10	.07
Gender *Spol*	-.09	.11*	-.05
SES *Socioekonomski status*	.19***	-.20***	.16*
Eudaimonia *Eudaimonija*	.17**	-.20*	.23***
R²	.09**	.08*	.09***
ΔR²	.03**	.01*	.05***
F	7.63***	6.81***	7.50***

Note. **p<.05, **p<.001, ***p<.0001, R^2 proportion of variance in the criterion variable explained by the predictor variable, ΔR^2 difference in R^2 between previous and current step, F F-ratio, β degree of change in the outcome variable for every 1-unit of change in the predictor variable*
Legenda.**p< 0.01; *p< 0.05; R – koeficijent multiple korelacije; R² - koeficijent multiple determinacije; ΔR² - dodatna količina varijance kriterija koju su objasnili prediktori uvršteni u tom koraku; F - F-omjer; β – standardizirani koeficijent

Discussion

This study looked into the relationship between eudaimonia and various aspects of mental health. The findings show that eudaimonia shapes general mental health and both of its dimensions, positive and negative mental health. Considering that eudaimonia is a state of well-being resulting from purposeful interaction with one's environment it was unsurprising that higher eudaimonia is associated with greater general and positive mental health functioning. On the other hand, a negative association has been found between eudaimonia and negative mental health. Since symptoms of detrimental mental health often include apathy and lack of joie de vivre, this mental health domain was, as expected, linked to low eudaimonia.

The results suggest if we want to cultivate optimal mental health then eudaimonia may be one of the paths to be followed. Thus, a life of virtue and meaning shapes mental health. Not only because it cultivates a greater fulfillment and greater self but it exercises the approach to life as one which, despite all the challenges, is worth living. Meaning as the central phenomenon in human existence has already been addressed by Frankl[17] who claimed that people's main motivation in life is finding meaning. Others who pursued this thought demonstrated that self-realization, a state which arises as an outcome of a

man's quest for meaning, initiates greater personality integration as well as physical and mental health.[1] The importance of meaning is also proven through therapeutic approaches enhanced with meaning-oriented techniques that shown to reduce depressive and anxiety symptoms as well as hopelessness while improving well-being levels.[18,19]

Some studies suggest that eudaimonia supports mental health through stress-reducing physiological processes. A longitudinal study by Zillioli et al.[20] demonstrated that eudaimonia predicted lower allostatic load 10 years later after controlling for various factors that could also affect allostasis. Such a relationship can be explained by various body inflammatory responses which regulate the allostatic load. For example, eudaimonia is inversely related to IL-6 which high levels are associated with stress[21] and depression.[22] Also, higher purpose is related to lower sensitivity of the sympathetic nervous system in the face of emotional stress.[23]

Studies that were focused on psychological mechanisms further support the buffering role of eudaimonia on mental health. Negative effects of emotional abuse and neglect in childhood on depression in adulthood[24] are mitigated by purpose in life i.e. eudaimonia. Experimental studies investigating eye-blink startle response to negative stimuli demonstrated that a higher eudaimonia is associated with a lower eye-blink startle response, i.e. a lower reactivity, to negative stimuli.[25]

Eudaimonia could also have been associated with mental health by balancing positive and negative affect thereby shaping the overall affective state of an individual.[9] That on its own could have molded a mental health status. Furthermore, a balanced emotional functioning is associated with creative ways of thinking allowing one to take a wider perspective on life[26] facilitating broad-minded coping which is shown to contribute to successful dealing with stressors and less distress.[27] Support for this hypothesis comes from Arends et al.'s[28] study which demonstrated a correlation of r=0.47 between purpose and goal adjustment indicating that people with a higher purpose in life adjust their goals amid new and upcoming challenges to decrease stress levels. Lewis et al.[29] demonstrated that eudaimonic living is associated with a greater insular cortex volume, which is responsible for higher-order cognitive functions while Harmat et al.'s[30] study has shown that self-reported flow positively correlates with several parasympathetic nervous system activity indicators.

Eudaimonia could also be linked to a mental health state through the available energy level or vitality. Wood and Joseph's[9] finding that pursuing highly desired (i.e. eudaimonic) goals is accompanied by high levels of vitality, one of the salient indicators of psychological health,[31] supports this assumption. Additionally, vitality increases over time for those working on eudaimonic goals.[32]

The component-level analysis has shown that eudaimonia is linked to positive mental health to a slightly greater extent than negative mental health. This suggests that the avenue through which eudaimonia predominantly relates to optimal mental health is by increasing positive mental health functioning rather than reducing the presence of psychological disturbances. With that said, it could be concluded that one of the main premises of positive psychology has been confirmed. That is, mental health cannot be achieved by combating mental illness but by improving and protecting positive mental health via behaviors and activities that cultivate it.

However, it has to be kept in mind that the size of explained variance by eudaimonia in general mental health, negative mental health, and positive mental health is 1%, 3%, and 5% respectively. That is a relatively small percentage of variance explained by eudaimonia for each criterion variable suggesting caution in placing a big accent on the role of eudaimonia in mental health. This is especially true considering a whole array of other factors that also may affect it to an equal or much greater extent. For example, research suggests that mental health is also regulated by genes,[33] personality,[34] and defense mechanisms.[35]

Following this line of argument is also this study's finding that socioeconomic status had an almost equally important contribution to mental health domains such as eudaimonia. Such relationships between socioeconomic status and mental health have already been confirmed in previous work with youth and younger adults. It is argued that growing up surrounded by financial problems as well as parental unemployment and mental health problems affects the mental health status of young people.[36,37] Longitudinal studies suggest that of all socioeconomic indicators, the greatest effect on the mental health of young people has parental education and stressful life situations.[38]

When it comes to the study limitations one needs to keep in mind that the study was cross-sectional as well as correlational so any possibility of drawing causal conclusions or conclusions about the direction of the tested relationships is limited.Literature suggests that the mental health and well-being relationship is bidirectional. Although in this study the interest was to examine how eudaimonia shapes mental health functioning, research indicates that

mental health status affects levels of well-being also.[39,40] Another shortcoming of the study is that the subjects were undergraduate students thus, healthy, young people, which makes the generalization of the results problematic. The effects of neuroticism, a trait which is known to contribute to negative response bias and influence subjective measures of well-being, subjective health measures, and its relationships,[41] have not been controlled in this study so, we can't know to what extent this personality dimension affected tested relationships. Lastly, considering the very nature of eudaimonia, it is very unlikely that its full effects on mental health could be observed in a cross-sectional study. For its full effects to be examined, one would have to undertake longitudinal research.

Conclusions

Although previous research recognizes the importance of many different factors in the etiology of mental health it is only recently acknowledged that eudaimonia may have an important role in this domain also. The study's findings reveal the value of an intentional and purposeful life in mental health functioning. Greater purpose in life is linked to the presence of general mental health along with positive mental health functioning and decreased presence of mental health issues. This suggests that finding and pursuing something worthwhile living may be one of the ways to successfully shape own mental wellness.

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