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OPTIMIZING HIGHER EDUCATION MANAGEMENT: INSIGHTS FROM RESEARCH ON STUDENTS' FLOURISHING AND COGNITION

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Abstract. *In recent years, many governments around the world have placed a stronger emphasis on people's wellbeing with the aim of making societies more inclusive and cohesive. As part of this approach, the public sector has introduced a number of initiatives to measure and support students' psychological flourishing. Previous research reported that students' flourishing could be linked to certain positive/negative cognitions, but the specifics of these links were under-researched. This study aimed to reveal links between students' automatic thoughts and flourishing in a sample of public sector university students (n = 226), where 75.7% of participants (n = 171) were 18 to 24 years old and 24.3% (n = 55) were aged 25+. The participants represented four fields of study: Life Sciences (n = 35), Humanities (n = 71), Social Sciences (n = 85), and Technology Sciences (n = 31). The Flourishing Scale (FS) was used to assess students' flourishing, and the Automatic Thoughts Questionnaire-Revised (ATQ-R) was applied to measure participants' positive and negative automatic thoughts. The findings revealed that students' negative self-concepts and negative expec-*

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tations negatively predicted flourishing, while positive automatic thoughts and positive self-statements positively predicted flourishing. The findings also revealed that positive automatic thoughts and self-statements mediate the link between negative self-concept, negative expectations, and flourishing. Moreover, the results show that strengthening students' positive cognitions can contribute to students' increased flourishing, despite coexisting negative cognitions. Based on these findings, fostering a positive and supportive educational environment that promotes mental wellbeing is recommended. This can be achieved by implementing policies prioritizing students' mental health and providing resources such as counseling services and support systems. Creating an environment where students feel valued, supported, and encouraged can help counteract their negative cognitions, leading to improved flourishing.

Keywords: *higher education, public policy, students, flourishing, cognitions.*
Reikšminiai žodžiai: *aukštasis mokslas, viešoji politika, studentai, klestėjimas, kognicijos.*

Introduction

In recent years, many governments around the world have placed a stronger emphasis on people's wellbeing with the aim of making societies more inclusive and cohesive. As part of this approach, the public sector has introduced a number of initiatives to measure and support students' psychological flourishing. Examining students' flourishing is significant, as research has demonstrated that flourishing is positively related to students' academic performance (Locke and Schippers 2018), while poor mental health is linked to diminished flourishing (Schotanus-Dijkstra et al. 2016, 2017). Additionally, young adults aged 18–24 are more likely to experience mental health issues than any other age group (National Institute of Mental Health, n.d.).

Previous studies evidenced links between flourishing and personality traits (Kern, Della Porta and Friedman 2013), parenting behaviors (Rothenberg et al. 2021), or prosocial conduct (Miles et al. 2021). Similarly, other research evidenced links between mental diseases and cognitions and showed that negative cognitions predict students' depression and anxiety (Ingram et al. 2007; Okumuşoğlu 2017). However, the specifics of links between students' flourishing and positive/negative cognitions are under-explored.

This study aims to reveal links between students' automatic thoughts, including positive and negative cognitions, and flourishing.

Students' flourishing

In positive psychology, flourishing is a broad concept with many definitions and explanations. Some authors indicate that high levels of emotional, psychological, and social wellbeing and the absence of mental illness could be described as flourishing (Knoesen and Naude 2017). Diener et al. (2009) established a comprehensive theory of flourishing, according to which flourishing means optimism and high self-esteem, living a purposeful

and meaningful life, contributing to the happiness of others, being engaged and interested in one's activities, having supportive and rewarding social interactions, feeling valued by others, and feeling competent and capable of accomplishing one's tasks (Diener et al. 2009).

Is there any evidence that students' flourishing could be promoted in higher education? Several decades ago, Oades et al. (2011) proposed a model of positive higher education defined by developing an environment promoting students' flourishing in educational institutions. The model suggested that five related factors might contribute to students' wellbeing: 1) classroom and formal education, e.g., academic achievement and student motivation; 2) social environment, including students' social relationships; 3) local community, including volunteering activities; 4) faculty and administrative work, including their work stress or burnout; and 5) residence halls, including facilities. According to Oades et al. (2011), students' positive feelings in higher education are essential, as are engagement, connections, purpose, and achievements.

Are educational institutions designed to foster students' flourishing? Although research has established the importance of students' flourishing for academic achievements, many studies evidence that from the first year at university, students experience various stressful events, loneliness, and a lack of social and emotional support from educational institutions, which might eventually lead to dropouts or diminished health. Most students fall into the age group of 18–24, which has the highest percentage (30.6%) occurrence of mental illness (National Institute of Mental Health, n.d.). Even though universities worldwide have initiated student wellness programs, the data on students' dropout rates and mental health indicate a need for new insights into the possibilities to promote students' flourishing.

Automatic thoughts: positive and negative

Automatic thoughts, negative or positive cognitions, self-statements, or self-talk are repetitive and uncontrollable thoughts that automatically occur in the mind (Beck, 1967, 1979, 2019). Research has demonstrated that automatic self-talk could be classified as positive or negative depending on its valence, content, and potential impact (Theodorakis, Hatzigeorgiadis and Zourbanos 2012). Several criteria, including valence, function, and overtness, were suggested by Hardy (2006, quoted in Latinjak et al. 2019) as a way to categorize self-talk. Positive self-talk was specified as being delivered in the form of compliments. Positive self-talk aids in maintaining attention on the task at hand rather than on mistakes made in the past or unreachable goals in the future. Conversely, negative self-talk was defined as self-statements in the form of criticism. Negative self-talk is mainly unreasonable, unhelpful, and may cause misery or anxiety (Hardy, 2006, quoted in Latinjak et al. 2019).

The term "automatic thoughts" originated from cognitive behavioral therapy, which assumed that self-related thoughts develop at an early age and later become automatic, affecting emotions and behavior in adulthood (Ingram, Overbey and Fortier 2001). Beck (1967) was among the first authors who suggested that negative thoughts that are repetitive, intrusive, and relatively uncontrollable play a significant role in the onset of

psychopathological states. According to Beck et al. (1979), individuals with depressive symptoms think differently than non-depressed people about themselves and perceive their environment differently. Other researchers confirmed the automatic character of negative cognitions in psychological diseases, e.g., depression (Ingram and Wisnicki 1988; Ingram et al. 1995). Negative cognitions were also reported to determine the risk groups for depression (Gotlib and Joormann 2010). On the whole, researchers established that negative automatic thoughts indicate psychological dysfunctions (Ingram et al. 2007). Although negative cognitions were widely studied in determining psychological problems, for many decades cognitions were, to some extent, only researched in the context of healthy individuals or psychological wellbeing.

Several studies analyzed the links between flourishing and positive cognitions-related constructs such as self-efficacy, optimism, problem-solving appraisal, and goal setting (Maddux 2009; Carver and Scheier, 2015; Locke and Schippers 2018). Research established that positive cognitions help students achieve high psychological, social, and emotional wellbeing (Chui and Chan 2020). It was also found that negative and positive cognitions are not related (Ingram and Wisnicki 1988).

Interestingly, research has evidenced associations between high negative self-statements and low mindfulness (Frewen et al. 2007). It was demonstrated that mindfulness is negatively associated with negative self-statements, which suggests that non-judgmental acceptance of and attention towards the events happening in one's life can help to reduce negative cognitions (Ayhan and Kavak Budan 2021).

Overall, to some extent, previous studies suggest that the positivity or negativity of cognitions might affect psychological flourishing. Studies conducted by Ouweneel, Le Blanc and Schaufeli (2011) and Camacho-Morles et al. (2021) found that positive feelings and emotions towards studying, which result from positive cognitions, have a definite impact on academic performance and achievements. A study of Chinese college students conducted by Chui and Chan (2020) demonstrated that positive thinking is positively linked to students' psychological wellbeing. On the contrary, negative cognitions, which lead to disappointment, despair, or anxiety, were reported to be linked to depressive symptoms or the onset of depression (Ingram et al. 2007).

Current research

This study is based on Diener's flourishing theory and Beck's theory on automatic thoughts. According to Diener's et al. (2009) theory, flourishing is reflected in optimism, self-esteem, engagement in meaningful activities, and fulfilling social relations. Beck's (1967) theory states that negative automatic thoughts adversely affect mental health, while positive cognitions may increase psychological wellbeing. One of the objectives of this study was to test whether the constructs of flourishing and positive automatic thoughts overlap, as flourishing is usually assessed based on self-rated statements about oneself and one's life.

In this study, we focus on the links between automatic positive and negative thoughts and the flourishing of university students. Some authors directly refer to variations in

psychological wellbeing based on age or other socio-demographic variables. Therefore, we also intended to estimate the effect of these variables on students' flourishing and positive and negative automatic thoughts.

On the whole, this study aimed to reveal associations between students' positive/negative automatic thoughts and flourishing. As positive and negative automatic thoughts are operationalized as different processes which function separately, we hypothesized that (H1) positive automatic thoughts are positively associated with flourishing and negative automatic thoughts are negatively associated with flourishing, and that (H2) positive automatic thoughts mediate the link between negative automatic thoughts and flourishing. We also hypothesized that (H3) differences exist in flourishing and the associations of positive/negative automatic thoughts based on age, region, and field of study. The dependent variable in this study was flourishing, and the independent variables were positive and negative automatic thoughts, age, region, and field of study.

Methods

Participants

The study sample consisted of students from public sector universities (n = 226) who were recruited by snowball sampling. All participants were invited to participate in the study online. Before proceeding, participants were informed about the research purposes and were asked for informed consent. Participants were also informed of their right to withdraw from the survey at any time. Contact information was also added in the description of the study so that participants could have any questions answered. The data collection procedure followed the standards of the Declaration of Helsinki, and participants provided informed consent to collect their data. Participation was voluntary and anonymous. The questionnaire took around 10–15 minutes to complete.

There was no missing data from the total of 226 individuals; 75.7% of participants (n = 171) were in the group aged 18 to 24 years, and 24.3% (n = 55) of students were aged 25 years and older. The participants represented four fields of study: Life Sciences (n = 35), Humanities (n = 71), Social Sciences (n = 85), and Technology Sciences (n = 31). The fifth group labeled "other" (n = 5) did not fit into any of the four groups. Participants were from two regions: 154 respondents were from Eastern Europe, and 72 students were from Central Asia. The total sample consisted of 92.04% females (n = 208) and 7.96% males (n = 18), which can be considered a limitation as different genders were not represented equally in this study.

Measures

The *Flourishing Scale (FS)* was used to assess students' flourishing. The FS is an 8-item self-report scale developed by Diener et al. (2010). Examples of FS items are: "I am engaged and interested in my daily activities."; "I actively contribute to the happiness and wellbeing of others."; and "I am optimistic about my future." Responses are based on

a 7-point Likert scale, where 7 is the highest score and 1 is the lowest (from "strongly agree" to "strongly disagree"). The FS has been validated across various samples, including older individuals and post-secondary students, and the one-dimensional structure of the FS was confirmed by previous studies, supporting the instrument's internal consistency (Tong and Wang 2017; Villieux et al. 2016).

The *Automatic Thoughts Questionnaire-Revised (ATQ-R)* was applied to measure participants' positive and negative automatic thoughts. The ATQ-R is a 40-item self-report measure created by Kendall, Howard and Hays (1989). Participants were asked to rate how frequently they had experienced each thought in the previous week. The items are rated on a 5-point Likert scale ranging from 1 to 5 ("not at all" to "all the time"). The ATQ-R is a modified version of the ATQ-30 that includes ten positive self-statements in addition to the 30 depression-related negative self-statements from the original ATQ-30 (Burgess and Haaga 1994). As with the ATQ-30, a higher score denotes a higher frequency of these thoughts. Examples of ATQ-R items include: the Low/Negative Self-Concept and Negative Expectations subscale – 11. "I'm so weak.", 33. "I'll never make it."; the Personal Maladjustment and Desire for Change subscale – 5. "No one understands me", 12. "My life is not going the way I want it to."; and the Positive Automatic Thoughts and Positive Self-Statements subscale – 3. "I am proud of myself.", 13. "I can accomplish everything". Previous studies confirmed the instrument's high internal consistency (Cronbach's $\alpha = 0.90$). The ATQ-R has been validated in Portugal in a study by Da Borralha (2011), which employed the ATQ-R as a measure of how frequently automatic thoughts, both good and bad, are connected to depression in adults. Another validation study was conducted by Pereira, Matos and Azevedo (2014), in which the validity and internal consistency of the ATQ-R were examined. The latest study confirmed high internal consistency for both the whole scale ($\alpha = 0.96$) and negative and positive automatic thoughts ($\alpha = 0.91$ and $\alpha = 0.94$, respectively).

Data analysis

We used the SPSS v. 26 and JASP v. 16 software to analyze the data. To test the reliability of the instruments, we applied Cronbach's α calculations. To test the validity of the instruments, we applied confirmatory factor analysis (CFA) based on the factors identified by Pereira, Matos and Azevedo (2014). To check the normality of the data, we evaluated the results of the Shapiro–Wilk test, skewness, and kurtosis. An independent samples *T*-test was applied to compare the groups based on age and region, and one-way ANOVA was used to examine differences based on the field of study. Bivariate correlation and linear regression analyses were performed to find associations between FS and ATQ-R subscales controlling for age, region, and the field of study.

Reliability and validity of the scales

In this study, for the FS, Cronbach's $\alpha = 0.919$. For the ATQ-R, Cronbach's $\alpha = 0.916$. For the ATQ-R subscale Low/Negative Self-Concept and Negative Expectations, Cron-

bach's α = 0.959. For the ATQ-R subscale Personal Maladjustment and Desire for Change, Cronbach's α = 0.900. For the ATQ-R subscale Positive Automatic Thoughts and Positive Self-Statements, Cronbach's α = 0.941.

Confirmatory Factor Analysis (CFA) showed that for the FS, X^2 = 38.072, *df* = 20, *p* = 0.009, *CFI* = 0.998, *TLI* = 0.997, *NFI* = 0.995, *RMSEA* = 0.063 [0.031–0.094], *SRMR* = 0.040. For the ATQ-R, X^2 = 1310.531, *df* = 591, *p* < 0.001, *CFI* = 0.996, *TLI* = 0.995, *NFI* = 0.992, *RMSEA* = 0.073 [0.068–0.079], *SRMR* = 0.071. Thus, there is evidence of the internal consistency of the instruments used in this study and a good fit of the measurement models (Byrne 2013).

Data distribution

Analysis of the Shapiro-Wilk test revealed a departure from a normal distribution for the FS, where *W* (226) = 0.944 and *p* < 0.001. For the ATQ-R subscales: Low/Negative Self-Concept and Negative Expectations, *W* (226) = 0.905, *p* < 0.001; Personal Maladjustment and Desire for Change, *W* (226) = 0.968, *p* < 0.001; and Positive Automatic Thoughts and Positive Self-Statements, *W* (226) = 0.974, *p* < 0.001. However, the skewness and kurtosis of the scales (FS, ATQ-R) and subscales ranged from −1 to +1, indicating that parametric statistics can be applied (Kline 2015). For the FS, skewness = −0.857 (*SE* = 0.162) and kurtosis = 0.497 (*SE* = 0.322). For the ATQ-R subscales: Low/Negative Self-Concept and Negative Expectations, skewness = 0.953 (*SE* = 0.162), kurtosis = 0.201 (*SE* = 0.322); Personal Maladjustment and Desire for Change, skewness = 0.361 (*SE* = 0.162), kurtosis = −0.730 (*SE* = 0.322); and Positive Automatic Thoughts and Positive Self-Statements, skewness = 0.191 (*SE* = 0.162), kurtosis = −0.881 (*SE* = 0.322).

Results

Table 1 shows the mean scores for the FS and ATQ-R (low/negative self-concept and negative expectations, personal maladjustment and desire for change, positive automatic thoughts and positive self-statements) T-test values in the samples of participants aged 18–24 and participants aged 25 and older. The results showed that participants aged 18–24 scored significantly lower on both low/negative self-concept and negative expectations and personal maladjustment and desire for change than participants aged 25+.

Table 1. *Mean scores for the total (n = 226) sample, and T-test for the samples of participants aged 18–24 (n = 171) and participants aged 25 and older (n = 55)*

Logistic parameter	Total sample		Aged 18-24		Aged 25+		*t(224)*	*p*	Cohen's *d*
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*			
Flourishing	4.8905	1.26267	4.8238	1.24489	5.0977	1.30630	−1.402	0.162	−0.217
Automatic Thoughts									
Low/Negative Self-Concept and Negative Expectations	2.1456	.95869	2.2495	0.97050	1.8227	0.85090	2.919	0.004	0.453

Logistic parameter	Total sample		Aged 18-24		Aged 25+		t(224)	p	Cohen's d
	Mean	SD	Mean	SD	Mean	SD			
Personal Maladjustment and Desire for Change	2.5286	.89950	2.6281	0.89978	2.2194	0.83293	2.982	0.003	0.462
Positive Automatic Thoughts and Positive Self-Statements	2.9425	.94113	2.9103	0.91564	3.0424	1.01868	−0.905	0.366	−0.140

Table 2 shows the bivariate correlations for the FS and ATQ-R (low/negative self-concept and negative expectations, personal maladjustment and desire for change, positive automatic thoughts and positive self-statements) in the total sample of respondents.

Table 2. *The bivariate correlations for the FS and the ATQ-R subscales in the total sample (n = 226)*

Construct	1	2	3
1. Flourishing	—		
2. Low/Negative Self-Concept and Negative Expectations	−0.554 ***	—	
3. Personal Maladjustment and Desire for Change	−0.457 ***	0.875 ***	—
4. Positive Automatic Thoughts and Positive Self-Statements	0.557 ***	−0.531 ***	−0.484 ***

*** $p < 0.001$

Correlational analysis showed that the constructs of flourishing and positive automatic thoughts and positive self-statements are strongly correlated ($r = 0.557$, $p < 0.001$) but not overlapping, and can be considered two distinct constructs. Not surprisingly, flourishing was significantly negatively correlated with both low/negative self-concept and negative expectations and personal maladjustment and desire for change.

To test H1, a multiple linear regression analysis was performed to examine the links between positive and negative automatic thoughts and flourishing. In this analysis, flourishing was the dependent variable, and positive and negative automatic thoughts were the predictors. The results are presented in Table 3.

Table 3. *Multiple regression analysis for flourishing as a dependent variable and automatic thoughts as predictors*

Model	Unstandardized Coefficients		Standardized Coefficients	t	p
	B	Std. Error	Beta		
(Constant)	3.954	0.387		10.221	0.000
Low/Negative Self-Concept and Negative Expectations	−0.635	0.148	−0.474	−4.280	0.000
Personal Maladjustment and Desire for Change	0.258	0.152	0.182	1.695	0.091
Positive Automatic Thoughts and Positive Self-Statements	0.555	0.082	0.409	6.785	0.000

$R^2 = 0.404$; Adjusted $R^2 = 0.396$; $F(3,223) = 50.478$; $p < 0.001$

As demonstrated in Table 3, the results revealed a significant regression equation with $R^2 = 0.404$, $F(3.223) = 50.478$, $p < 0.000$. The predicted flourishing was 3.954 −0.635 (low/negative self-concept and negative expectations) and +0.555 (positive automatic thoughts and positive self-statements). Both negative self-concept and negative expectations and positive automatic thoughts and positive self-statements contributed significantly to the model and can be considered significant predictors of flourishing.

Based on a conceptual model on the importance of the balance of positive/negative cognitions, we further analyzed the links between positive and negative automatic thoughts and flourishing and presumed (H2) that positive automatic thoughts might mediate the links between negative automatic thoughts and flourishing. In the model shown in Figure 1, the outcome variable for the mediation analysis was flourishing. Based on previous analyses, the predictor variable was negative self-concept and negative expectations, and the mediator variable was positive automatic thoughts and positive self-statements.

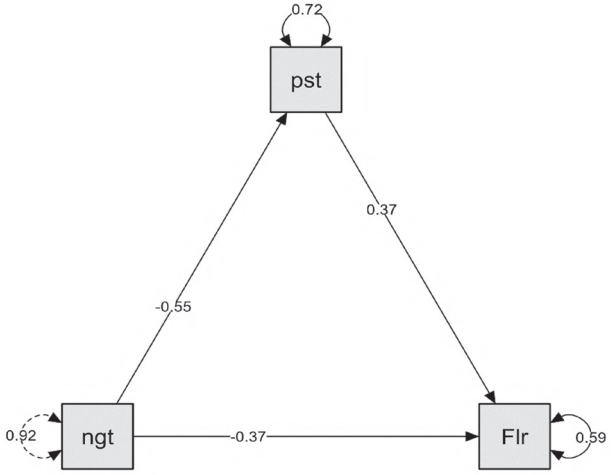

Figure 1. *Mediation analysis: path plot in the total sample, the role of Positive Automatic Thoughts and Positive Self-Statements*
Note: Flr –: flourishing; pst: – Positive Automatic Thoughts and Positive Self-Statements; ngt–: Negative self-concept and Negative Expectations.

The mediation analysis results, which indicate the role of positive automatic thoughts and positive self-statements, are presented in Table 4. The indirect effect of negative self-concept and negative expectations on flourishing was statistically significant. R^2 for flourishing was 0.403, and R^2 for positive automatic thoughts and self-statements was 0.282.

Table 4. *Mediation analysis results in the total sample of respondents: the role of positive automatic thoughts and positive self-statements as a mediator*

Effect	Label	Estimate	SE	95% Confidence Interval		Z	p	% Mediation
				Lower	Upper			
Indirect	a × b	−0.256	0.0504	−0.355	−0.158	−5.09	<0.001	35.2
Direct	c	−0.473	0.0798	−0.629	−0.316	−5.92	<0.001	64.8
Total	c + a × b	−0.729	0.0730	−0.872	−0.586	−10.00	<0.001	100.0
Negative self-concept and negative expectations → Positive automatic thoughts and positive self-statements = a Positive automatic thoughts and positive self-statements → Flourishing = b Negative self-concept and negative expectations → Flourishing = c								
	a	−0.521	0.0553	−0.629	−0.412	−9.41	<0.001	
	b	0.492	0.0813	0.333	0.652	6.05	<0.001	
	c	−0.473	0.0798	−0.629	−0.316	−5.92	<0.001	

The mediation analysis showed that positive automatic thoughts and positive self-statements mediate the link between negative self-concept and negative expectations and flourishing. This means that strengthening positive automatic thoughts and self-statements can contribute to increased flourishing, despite coexisting negative cognitions.

We performed hierarchical regression analysis to test H3, which assumed differences in flourishing and associations of positive/negative automatic thoughts based on age, region, and the field of study. The results are displayed in Table 5.

Table 5. *Hierarchical regression analysis results for flourishing in the total sample of respondents*

	Predictors	F	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Flourishing	
			B	Std. Error	Beta			R^2	ΔR^2
Step 1	(Constant)	2.608*	5.466	0.466		11.743	0.000	0.034	
	Age		0.290	0.194	0.099	1.496	0.136		
	Field of study		−0.103	0.086	−0.079	−1.193	0.234		
	Region		−0.401	0.180	−0.148	−2.226	0.027		
Step 2	(Constant)	25.230***	4.300	0.556		7.739	0.000	0.409	0.375
	Age		0.022	0.157	0.008	0.143	0.886		
	Field of study		−0.010	0.069	−0.008	−0.151	0.880		
	Region		−0.022	0.148	−0.008	−0.146	0.884		
	Low/Negative Self-Concept and Negative Expectations		−0.641	0.148	−0.486	−4.320	0.000		
	Personal Maladjustment and Desire for Change		0.213	0.155	0.152	1.376	0.170		
	Positive Automatic Thoughts and Positive Self-Statements		0.497	0.083	0.370	5.980	0.000		

**p = 0.052; *** p < 0.001*

Hierarchical regression analysis revealed that control variables explain 3.4% of the variance for flourishing, while low/negative self-concept and negative expectations and positive automatic thoughts and positive self-statements explain 37.5% of the variance for flourishing.

Discussion

This study is based on two partly distinct theoretical paradigms: positive psychology and cognitive-behavioral therapy. Positive psychology scholar E. Diener conceptualized flourishing as self-reported optimism and high self-esteem, a purposeful and meaningful life, contributing to the happiness of others, being engaged and interested, having supportive and rewarding social interactions, being valued by others, and being competent and capable to accomplish one's tasks (Diener et al. 2009). Cognitive behavioral therapy scholars conceptualize positive and negative automatic thoughts as beliefs about oneself and one's life that might have adaptive or maladaptive characters. Beck (1967, 2019) and Beck et al. (1979) suggested that negative automatic thoughts adversely affect mental health, while positive automatic thoughts may increase psychological wellbeing. In this study, we intended to examine whether the constructs of flourishing and positive automatic thoughts overlap, as flourishing is usually also assessed based on self-rated statements about oneself and one's life. The findings revealed that positive automatic thoughts and flourishing constructs are firmly related, but they are still indicative of two distinct constructs, and their links can be investigated.

Recent research on UK youth has shown that several factors contribute to diminished psychological wellbeing: rising unemployment, loss of social mobility, declining housing affordability, and a delay in reaching the maturity necessary to assume the role of an independent adult (Lakasing and Mirza 2020). However, little recent research has analyzed the links between students' flourishing and their positive and negative automatic thoughts.

The results of this study showed that participants aged 18–24 scored significantly lower on low/negative self-concept and negative expectations, and personal maladjustment and desire for change, than participants aged 25+. The findings demonstrate that individuals in the 18–24 years age group encounter more frequent negative automatic thoughts compared to those 25 years and older. However, there were no significant differences between age groups in flourishing and positive automatic thoughts. These outcomes indirectly link to National Survey on Drug Use and Health (SAMHSA, 2020) statistics, which showed that individuals aged 18 to 25 have the highest percentage of Any Mental Illness (AMI), with a prevalence of 30.6%, compared to the age groups of 26–49 years (25.3%) and 50 years and older (14.5%).

H1, which assumed the links between positive and negative automatic thoughts and flourishing, was partly confirmed. Multiple linear regression analysis revealed that negative self-concept and negative expectations negatively predicted flourishing, while positive automatic thoughts and positive self-statements positively predicted flourishing. However, the effect of personal maladjustment was insignificant. The findings that positive automatic thoughts positively predict flourishing were found in other studies (Dirzyte et al. 2021), as well as the results linking negative self-concept to poor mental wellbeing.

H2, which was based on a conceptual model on the importance of a balance of positive/negative cognitions and presumed that positive automatic thoughts might medi-

ate links between negative automatic thoughts and flourishing, was also partially confirmed. The mediation analysis showed that positive automatic thoughts and positive self-statements mediate the link between negative self-concept, negative expectations, and flourishing. This finding seems to offer hope, as it means that strengthening positive automatic thoughts and positive self-statements can contribute to increased flourishing, despite coexisting negative cognitions.

H3, which assumed differences in flourishing and associations of positive/negative automatic thoughts based on age, region, and field of study, was partly confirmed. Hierarchical regression analysis revealed that control variables explain 3.4% of the variance for flourishing, while low/negative self-concept and negative expectations and positive automatic thoughts and positive self-statements explain 37.5% of the variance of flourishing.

To sum up, this study revealed significant negative associations between students' negative automatic thoughts and flourishing, and the findings could be linked to previous studies (Okumuşoğlu 2017; Ingram et al. 2007) and Beck's cognitive behavioral theory (Beck 1967, 2019; Beck et al. 1979).

The findings of this study also demonstrated that positive automatic thoughts are positively associated with flourishing, which is also in line with previous research (Howell 2009; Howell and Buro 2014; Dirzyte et al. 2021). Most importantly, this study showed that positive automatic thoughts mediate links between negative cognitions and flourishing, which means that efforts to improve students' positive cognitions may contribute to their flourishing.

The present research has several limitations. One of the limitations of this study is the uneven proportion of participants' genders, as the total sample consisted of 92.04% females (n = 208), which means that different genders were not represented equally. Another limitation is a lack of data on students' nationality. A third limitation is the sample size, which limits the possibility of generalizing the findings of this study on a larger scale. Finally, we recommend a longitudinal design on students' flourishing for future research.

Based on the finding that positive automatic thoughts mediate the relationship between negative self-concept, negative expectations, and flourishing, the following public policy recommendations can be formulated:

1. The integration of positive psychology in the curriculum. Public policy could emphasize integrating concepts and practices from positive psychology into the curriculum across various disciplines. By incorporating topics related to positive automatic thoughts, self-statements, and fostering resilience, students can develop skills to overcome negative cognitions and promote their flourishing. This integration can occur at different educational levels in higher education institutions.
2. The integration of positive psychology interventions. Public policy could emphasize the integration of positive psychology interventions within educational settings. Schools and universities can implement programs that promote students' positive thinking skills. These interventions can be offered as supplementary workshops or training sessions.
3. Creating a positive educational climate. Public policy could emphasize the creation of a positive and supportive educational climate. This can be achieved by implementing

strategies such as promoting a culture of inclusivity, fostering positive teacher-student relationships, and encouraging peer support and collaboration. A positive school climate can enhance the positive cognitions of students and contribute to their overall flourishing.

4. Training educators on positive reinforcement. Public policy could focus on providing educators with training on positive reinforcement techniques, as educators play a crucial role in shaping students' cognitive processes and can actively promote positive cognitions by providing constructive feedback, encouraging positive self-talk, and reinforcing students' strengths and accomplishments. Equipping educators with the necessary knowledge and skills can create a conducive learning environment that fosters positive cognitions and contributes to students' flourishing.
5. Providing mental health support services. Public policy could prioritize the availability of mental health support services in educational institutions. Universities should have accessible counseling services to help students address negative self-concepts and expectations. These services can provide interventions such as cognitive behavioral therapy to assist students in developing more positive automatic thoughts.
6. Research and evaluation. Public policy could focus on allocating resources for ongoing research and evaluation of the effectiveness of interventions to strengthen positive cognitions in educational settings, as it would help identify the most impactful strategies and ensure evidence-based practices are implemented. By continuously evaluating and improving interventions, educational policymakers can ensure that resources are allocated efficiently and effectively to support students' flourishing.

Based on the research findings on students' flourishing and cognitions, fostering a positive and supportive educational environment that promotes mental wellbeing is recommended. This can be achieved by implementing policies prioritizing student mental health and providing resources such as counseling services and support systems. Creating an environment where students feel valued, supported, and encouraged can help counteract their negative cognitions, leading to improved flourishing.

Conclusions

1. This study was based on two partly distinct theoretical paradigms: positive psychology and cognitive behavioral therapy. This study aimed to evaluate the links between automatic positive and negative thoughts and the flourishing of university students while also controlling for age, region, and field of study.
2. The findings revealed that negative self-concept and negative expectations negatively predict flourishing, while positive automatic thoughts and positive self-statements positively predict flourishing. The results also showed that positive automatic thoughts and positive self-statements mediate the link between negative self-concept, negative expectations, and flourishing. This finding seems hopeful, as it means that strengthening positive automatic thoughts and positive self-statements can contribute to students' increased flourishing, despite coexisting negative cognitions.

3. Based on the findings of the research, several public policy recommendations can be formulated, including: integrating concepts and practices from positive psychology into the curriculum across various disciplines; implementing programs that promote students' positive thinking skills; creating a positive and supportive educational climate by implementing strategies such as promoting a culture of inclusivity, fostering positive teacher-student relationships, and encouraging peer support and collaboration; providing educators with training on positive reinforcement techniques; prioritizing the availability of mental health support services in educational institutions; and allocating resources for ongoing research and the evaluation of the effectiveness of interventions to strengthen positive cognitions in educational settings, as by continuously evaluating and improving interventions, educational policymakers can ensure that resources are allocated efficiently and effectively to support students' flourishing.
4. By implementing the proposed public policy recommendations, educational institutions can foster an environment that promotes students' positive cognitions, ultimately enhancing their overall wellbeing.

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AUKŠTOJO MOKSLO VADYBOS OPTIMIZAVIMAS: STUDENTŲ KLESTĖJIMO IR KOGNICIJŲ TYRIMO ĮŽVALGOS

Anotacija. *Pastaraisiais metais daug vyriausybių, siekdamos įtraukties ir vientisumo visuomenėse, vis daugiau dėmesio skiria žmonių gerovės klausimams. Viešasis sektorius kaip šios strategijos dalis diegia iniciatyvas, skirtas analizuoti ir stiprinti aukštųjų mokyklų studentų psichologinę gerovę. Ankstesni tyrimai rodo, kad tai susiję su įvairiais veiksniais, tačiau sąsajos su pačių studentų mąstymu buvo palyginti mažai tyrinėtos. Empiriniu tyrimu siekta atskleisti ryšius tarp studentų minčių ir psichologinės gerovės. Universitetų studentų imtis n = 226. 75,7 proc. dalyvių buvo nuo 18 iki 24 metų amžiaus, 24,3 proc. – vyresni nei 25 metų. Tyrimo dalyviai atstovavo gyvybės mokslams (n = 35), humanitariniams mokslams (n = 71), socialiniams mokslams (n = 85) ir technikos mokslams (n = 31). Tyrimo rezultatai parodė, kad neigiamos studentų kognicijos dėl savęs ir ateities neigiamai prognozavo gerovę, o teigiamos kognicijos ją prognozavo teigiamai. Rezultatai atskleidė, kad teigiamos kognicijos yra mediatorius (turi mediacinį efektą) neigiamų kognicijų ir gerovės sąsajose. Stiprinant studentų teigiamas kognicijas, galima sustiprinti jų psichologinę gerovę. Remiantis gautais rezultatais, rekomenduojama diegti švietimo aplinkos iniciatyvas, kurios stiprintų konstruktyvų studentų mąstymą, ir sykiu psichologinę gerovę.*

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