



Psychological predictors of happiness mindset among university students: The roles of emotion regulation, optimism, cognitive flexibility, sense of purpose, and self-awareness

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ABSTRACT

Article History

Received: 21 November 2025

Revised: 27 February 2026

Accepted: 6 July 2026

Published: 17 August 2026

Keywords

Cognitive flexibility
Emotion regulation
Happiness mindset
Optimism
Self-awareness.

Positive psychology has introduced the concept of a happiness mindset; however, current research offers only limited insight into its cognitive and emotional predictors among university students. This study examined how emotion regulation, optimism, cognitive flexibility, sense of purpose, and self-awareness contribute to the happiness mindset among university students, offering a comprehensive evaluation of five psychological factors within a cohesive predictive model. A cross-sectional correlational design was employed, with hierarchical regression used to evaluate the distinctive impact of each psychological factor. A sample of 155 undergraduate students (73.5% female; $M_{\text{age}} = 23.76$) completed six standardized measures: The Life Orientation Test-Revised, Emotion Regulation Questionnaire, Cognitive Flexibility Inventory, Purpose in Life Test, Self-Reflection and Insight Scale, and Happiness Mindset Scale. Participants reported moderate levels of happiness mindset, average optimism, and a relatively high sense of purpose. Correlational analyses revealed that a happiness mindset was negatively associated with cognitive emotion regulation, optimism, and cognitive flexibility–control. Hierarchical regression identified cognitive emotion regulation as a significant negative predictor ($\beta = -0.24$, $p = 0.03$), while self-reflection showed a marginal positive trend ($\beta = 0.21$, $p = 0.08$). No significant differences were found based on age or gender, but employed students reported higher happiness levels than their unemployed peers. Findings suggest that adaptive emotion regulation plays a central role in cultivating a sustainable happiness mindset in emerging adults. The results underscore the importance of targeted psychoeducational interventions to enhance emotional flexibility and self-awareness in university settings.

Contribution/Originality: This study expands current knowledge by concurrently examining five key psychological determinants of happiness mindset in young adults. An integrative multi-construct model helps to elucidate the factors that significantly contribute to sustainable happiness. The study's results provide an evidence-based framework for creating educational and psychoeducational programs in university environments.

1. INTRODUCTION

In recent years, the idea of a happiness mindset has garnered more interest within positive psychology and the wider field of psychological sciences. A widely accepted definition of a happiness mindset describes it as a cognitive-emotional approach in which people interpret their life situations and emotional experiences in ways that foster ongoing well-being, rather than fleeting or momentary feelings of pleasure (Diener, Oishi, & Lucas, 2015). The traditional model of subjective well-being highlights life satisfaction, the presence of positive emotions, and the lack

of negative emotions (Diener, Oishi, & Tay, 2018). Nevertheless, new research indicates that a deeper understanding of the happiness mindset includes cognitive frameworks (how individuals conceptualize happiness), motivational drives (goals and purpose), strategies for regulating emotions, and meta-cognitive processes (Lee, Baek, Oh, Kim, & Ko, 2024; Nilsson, Friedrichs, & Kajonius, 2023).

Emotion regulation encompasses the methods through which individuals manage their emotions, including which emotions they feel, the timing of those emotions, and how they perceive and convey them (Gross, 1998). In particular, cognitive emotion regulation employs strategies such as reappraisal, rumination, catastrophizing, positive refocusing, acceptance, planning, and putting things into perspective (Garnefski, Kraaij, & Spinhoven, 2001). Research consistently shows that adaptive cognitive emotion regulation techniques, like positive reappraisal, are associated with greater well-being, while maladaptive strategies, such as rumination and catastrophizing, correlate with reduced well-being (Quoidbach, Berry, Hansenne, & Mikolajczak, 2010).

A recent meta-analysis on emotion regulation in adults revealed that challenges in regulation, including attention-focused strategies and cognitive avoidance, are closely linked to increased negative emotions and decreased life satisfaction (Kaempf, Adam, Rohr, Exner, & Wieck, 2023). Supporting this, a systematic review and meta-analysis on everyday emotion regulation (e.g., reappraisal, suppression, avoidance) highlighted consistent findings: regular use of avoidance and suppression correlated with higher negative emotions and lower well-being, while reappraisal displayed a moderate positive relationship with life satisfaction (Boemo, Nieto, Vazquez, & Sanchez-Lopez, 2022). Additionally, recent research by Tsujimoto, Saito, Matsuzaki, and Kawashima (2024) explored the unique influences of positive versus negative emotion regulation skills, discovering that the ability to manage negative emotions was a stronger predictor of life satisfaction and affect than positive regulation skills, underscoring the greater impact of maladaptive regulation on well-being. Furthermore, an empirical study indicated that emotion regulation influenced the relationship between social support, religiosity, and psychological distress among Lebanese adults (Karam et al., 2023). Therefore, the role of cognitive emotion regulation in predicting a happiness mindset deserves further exploration, especially within emerging adult student populations.

Optimism, generally understood as the belief that positive rather than negative outcomes will happen (Scheier & Carver, 1985), has been identified as a psychological asset contributing to well-being. Longitudinal and cross-sectional research indicates that individuals with an optimistic outlook report greater life satisfaction, improved physical health, and increased longevity (Diener & Chan, 2011). A systematic review examining happiness-related factors across various cultures identified optimism as one of the key cognitive-emotional elements associated with happiness within the hope category (Singh, Kshetriya, & Valk, 2023). Additionally, a recent study using German panel data demonstrated that optimism versus pessimism significantly influenced life satisfaction, even after accounting for anticipated significant life events (Piper, 2022). Research involving college students in the U.S. showed that optimism affected mental health by enhancing sleep quality and lowering stress levels (Lai et al., 2024). These findings support the idea of optimism as a cognitive-emotional resource that can help mitigate negative feelings and foster a mindset geared toward happiness. However, the interaction of optimism with other cognitive processes, such as emotion regulation and cognitive flexibility, in relation to predicting a happiness mindset is still insufficiently explored.

Cognitive flexibility, which refers to the capability to change cognitive approaches, consider problems from various viewpoints, and adjust thinking according to evolving demands, has been linked to psychological adjustment and overall well-being (Dennis & Vander, 2010). Recent studies indicate that greater cognitive flexibility is correlated with increased life satisfaction and reduced pessimism among adolescents (Özcan & Bedir, 2023). Furthermore, a relational survey involving university students demonstrated that cognitive flexibility significantly forecasts critical thinking tendencies (Karakuş, 2024). Additionally, research has revealed that cognitive flexibility plays a crucial role in the pathway from self-regulation to resilience in students (Nakhostin-Khayyat, Borjali, Zeinali, Fardi, & Montazeri, 2024). Within a happiness-mindset framework, cognitive flexibility might allow individuals to reinterpret emotional experiences more adaptively and recover more efficiently from challenges, thus fostering sustained well-being.

A sense of purpose in life signifies an individual's perception of having direction, meaningful objectives, and intent behind their daily actions (Ryff & Keyes, 1995). Research indicates that a heightened sense of purpose is associated with improved mental and physical well-being, which includes greater resilience to stress (Hill, Sin, Turiano, Burrow, & Almeida, 2018) and cognitive health (Hill & Turiano, 2014). A recent review examining purpose in life and its cognitive-affective mechanisms concluded that having a purpose is connected to enhanced emotional processing and expression (Fang, Allan, & Dickson, 2024). Within the framework of a happiness mindset, a sense of purpose may represent the motivational aspect that supports lasting happiness beyond fleeting positive emotions.

Self-awareness is the ability to contemplate one's internal feelings, actions, and aspirations, and to assess them within a larger self-system (Duval & Wicklund, 1972). Meta-analytic and experimental research indicate that elevated self-awareness, when combined with effective regulation, correlates with increased well-being and life satisfaction (Stoner, 2024). More recently, Slonova (2023) investigated early-adult individuals dealing with high anxiety and discovered that deficits in the behavioral aspect of self-awareness (such as self-control and planning) were related to inferior adjustment. Wagani and Gaur (2024) found that interventions aimed at enhancing self-awareness in a sample of college students led to improved health and wellness outcomes. Lopuha and Severyn-Mrachkovska (2025) reported a direct correlation between self-awareness and the clarity of life goals and responsible self-development among youth. In the context of a happiness mindset, self-awareness may aid in recognizing and managing emotional and cognitive processes, thus promoting more stable happiness over time.

While each construct, emotion regulation, optimism, cognitive flexibility, sense of purpose, and self-awareness, has been explored in relation to well-being, few studies have examined them together as predictors of happiness mindset, especially among university students. The interactions between these psychological resources and their effects on happiness may vary in student environments and may not always function positively. This study aims to investigate a cohesive predictive model of happiness mindset, considering emotion regulation, optimism, cognitive flexibility, sense of purpose, and self-awareness as simultaneous predictors. Based on prior research, the following hypotheses have been proposed.

H₁: Emotion regulation is expected to be a significant predictor of a happiness mindset.

H₂: Optimism is anticipated to significantly predict a happiness mindset.

H₃: Cognitive flexibility is likely to be a significant predictor of a happiness mindset.

H₄: A sense of purpose is expected to significantly predict a happiness mindset.

H₅: Self-awareness is expected to significantly predict a happy mindset.

This research contributes to existing literature by applying an integrative multi-construct approach to happiness mindset in emerging adults and utilizing recent studies on cognitive-emotional and motivational factors influencing well-being. The findings may support targeted interventions in higher education to promote a sustained happiness mindset among students.

2. LITERATURE REVIEW

Recent developments in positive psychology highlight the significance of maintaining a lasting happiness mindset, which encompasses beliefs, emotional tendencies, and behaviors that promote well-being (Ricard, 2007; Van Tongeren & Burnette, 2018). Research indicates that a happiness mindset is associated with resilience, effective coping, and reduced emotional volatility in young adults facing academic and social challenges (Dambrun, 2017). However, empirical research on the specific psychological mechanisms that foster this mindset in university students is limited, underscoring the need for a cohesive model that integrates cognitive and emotional factors. Recent developments in positive psychology emphasize the importance of understanding the processes that sustain a lasting mindset of happiness. This concept includes beliefs about happiness, emotional tendencies that promote consistent positive emotions, and behavioral tendencies related to meaning and intentional well-being (Ricard, 2007; Van Tongeren & Burnette, 2018). Research indicates that a happiness mindset is linked to resilience, effective coping

strategies, and lower emotional volatility among young adults facing academic and social challenges (Dambrun, 2017).

Despite the growing theoretical interest, there is a lack of empirical research examining which psychological mechanisms specifically contribute to fostering a happiness mindset in university students. This gap highlights the need to integrate cognitive and emotional factors into a cohesive predictive model. Significant evidence suggests that the quality and adaptability of emotion-regulation strategies are crucial for psychological well-being. Meta-analytic and large-scale studies show that adaptive strategies, especially cognitive reappraisal, are associated with greater life satisfaction, while maladaptive strategies such as rumination and suppression are linked to heightened distress (Boemo et al., 2022; Kaempf et al., 2023). Contemporary theories emphasize emotion-regulation flexibility, defined as the ability to choose appropriate strategies based on context, as a stronger predictor of sustained well-being (Haag, Bagrodia, & Bonanno, 2024; Tsujimoto et al., 2024). These findings position emotion regulation as a critical mechanism influencing the happiness mindset of university students. Evidence suggests that the quality of emotion-regulation strategies is vital for psychological well-being. Studies show that adaptive strategies like cognitive reappraisal correlate with higher life satisfaction, while maladaptive strategies such as rumination are linked to increased distress (Boemo et al., 2022; Kaempf et al., 2023). Contemporary theories stress the importance of emotion-regulation flexibility, the ability to select appropriate strategies based on context, as a key predictor of sustained well-being (Haag et al., 2024; Tsujimoto et al., 2024). Consequently, emotion regulation emerges as a critical factor influencing the happiness mindset in university students.

Trait optimism, characterized by generalized positive expectations, has been consistently linked to enhanced subjective well-being, resilience, and effective coping strategies within student populations (Lai et al., 2024; Piper, 2022). Intervention studies suggest that intentionally fostering optimistic expectations can causally improve emotional health and reduce stress, specifically among university students (Tarrats-Pons, Mussons-Torras, & Jiménez-Pérez, 2025). Recent findings indicate that optimism serves not only as a correlated factor but also as a mediator in the relationship between adaptive emotion regulation strategies and psychological well-being. This suggests that the benefits of optimism are contingent upon individuals' capacity to implement adaptive regulatory approaches, rather than being an isolated phenomenon (Sanchez-Sanchez, Schoeps, & Montoya-Castilla, 2025). The specific role of optimism in shaping happiness mindset remains underexplored, particularly when analyzed in conjunction with other psychological constructs. Cognitive flexibility emerges as a crucial component that aids adaptive coping mechanisms and facilitates academic adjustment (Karakuş, 2024; Nakhostin-Khayyat et al., 2024). Furthermore, evidence suggests that cognitive flexibility mediates the relationship between optimism and well-being, thereby amplifying the positive effects of hopeful expectations (Nakhostin-Khayyat et al., 2024). However, there remains a significant gap in research regarding the unique predictive power of cognitive flexibility on happiness mindset, especially when accounting for the simultaneous influence of emotion regulation, optimism, purpose, and self-awareness.

A strong sense of purpose has been prospectively linked to improved emotional recovery, decreased depressive symptoms, and various health advantages, thus highlighting its importance as a stabilizing motivational asset that supports enduring well-being (Kim, Chen, Nakamura, Ryff, & VanderWeele, 2022). Recent exploratory studies indicate that the concept of purpose in life operates through cognitive-affective mechanisms such as enhanced emotional processing and goal-oriented focus that may contribute to persistent happiness. This suggests that purpose should be considered alongside cognitive and regulatory elements (Fang et al., 2024). Reflective self-processing and insights have been demonstrated to enhance emotional clarity, boost self-regulation, and increase well-being among students (Nilsson et al., 2023; Wagani & Gaur, 2024). Importantly, studies differentiate between constructive self-reflection, which promotes insight, and maladaptive self-focused thinking characterized by rumination. While self-insight is positively associated with sustained well-being, self-reflection that lacks insight often reveals weak or insignificant links to positive outcomes (Lyke, 2009; Nilsson et al., 2023). Nonetheless, similar to the idea of purpose,

the role of self-awareness in fostering a happiness mindset in relation to other predictors remains a research area that is not thoroughly explored.

The elements of emotion regulation, optimism, cognitive flexibility, sense of purpose, and self-awareness are significantly associated with overall well-being. Nevertheless, most current research has concentrated on these variables separately or through disjointed mediation models. There is a clear lack of studies that explore these factors together to assess their unique and combined effects on the development of a defined happiness mindset. This gap hinders a thorough theoretical understanding of the cognitive and emotional frameworks that support sustainable happiness among university students. This research tackles this limitation by using a multivariate model to analyze all five psychological constructs at once, thus revealing their individual contributions as well as their collective impact on the happiness mindset in university student populations.

3. METHOD

3.1. Participants

A convenience sampling approach was used to gather participants for the research. The study sample included 155 students from Khazar University, aged between 18 and 35 years (114 = 73.5% female, 41 = 26.5% male), with a mean age of 23.76 years (SD = 3.93).

3.2. Measures

3.2.1. Life Orientation Test-Revised

The LOT-R, created by Scheier, Carver, and Bridges (1994), measures dispositional optimism, which is the general expectation that positive outcomes will happen in the future. An example of an Optimism Item is: In uncertain times, I generally anticipate the best. An example of a Pessimism Item is: If something can go wrong for me, it will, and an example of a Filler Item, which is not scored and is included to disguise the test's intent, is: It's easy for me to relax. It employs a five-point Likert scale that ranges from 0 = Strongly Disagree to 4 = Strongly Agree. This assessment consists of 10 items, 4 of which are reverse-coded, and measures the balance between optimism and pessimism. The Optimism Score is calculated by summing items 1, 4, and 10. The Pessimism Score is obtained by adding items 3, 7, and 9 (after reverse scoring). The Total LOT-R Score is the sum of all 6 scored items (which can range from 0 to 24). Higher scores indicate a greater level of optimism, while lower scores imply a greater level of pessimism. The LOT-R demonstrates strong internal consistency, with Cronbach's alpha values generally between 0.78 and 0.85. In this particular study, the Cronbach's alpha was 0.67. The internal consistency for the LOT-R in this research was slightly below conventional benchmarks, but this is common due to its limited items. Previous studies have shown similar moderate reliability scores (Glaesmer et al., 2012) and it is still widely used as a credible measure.

3.3. Emotion Regulation Questionnaire

The ERQ, a 10-item instrument developed by Gross and John (2003), assesses two primary emotion regulation strategies: Cognitive Reappraisal (CR) and Expressive Suppression (ES). Cognitive Reappraisal (CR) involves the process of adjusting one's thoughts about a situation to modify its emotional impact. An example item is "When I want to feel more positive emotions (such as joy or amusement), I change what I'm thinking about." Expressive Suppression (ES), on the other hand, entails inhibiting outward expressions of emotion. A sample item: I keep my emotions to myself. The ERQ employs a 7-point Likert scale, ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Cognitive Reappraisal Score = Sum of items 1, 3, 5, 7, 8, and 10. Expressive Suppression Score = Sum of items 2, 4, 6, and 9. Higher scores indicate greater use of the respective strategy. Notably, Cognitive Reappraisal (CR) exhibits strong internal consistency, with Cronbach's alpha values typically falling between .79 and .88. Expressive Suppression (ES) demonstrates slightly lower reliability, with Cronbach's alpha values generally ranging from .72 to .78, although still considered acceptable. In this study, Cronbach's alpha was .81.

3.4. Cognitive Flexibility Inventory

The CFI is a self-report measurement consisting of 20 items that evaluate a person's ability to adjust to new situations, change their viewpoint, and recognize different solutions to challenges (Dennis & Vander, 2010). The CFI covers two main areas of cognitive flexibility: 1. Alternatives Subscale: This subscale assesses a person's ability to generate various solutions and perspectives. 2. Control Subscale: This subscale examines an individual's sense of control regarding their thoughts and behaviors. Sample items include: from the Control Subscale: "I consider multiple options before making a decision," and from the Alternatives Subscale: "I am willing to explore new ways of thinking." The CFI uses a 5-point Likert scale, with answer choices ranging from "Strongly Disagree" (1) to "Strongly Agree" (5). The Control Subscale scores are calculated by summing items 1 to 10, while the Alternatives Subscale scores are determined by summing items 11-20. Higher scores indicate greater cognitive flexibility, meaning the person can effectively shift their thinking and adapt to change. The inventory shows strong internal consistency, with overall Cronbach's alpha values between .81 and .85. The Adaptability subscale usually demonstrates high reliability, with values exceeding .80, while the Openness to Novelty subscale tends to show slightly lower but still acceptable reliability, typically ranging from .74 to .79. In this research, the Cronbach's alpha was .95.

3.5. Purpose in Life Test

Crumbaugh and Maholick (1964) made the PIL, which consists of 20 items and it measures an individual's sense of meaning and purpose in life. It is widely used in psychological research, especially in areas related to well-being, existential meaning, and mental health. An item is: I am usually completely bored (1) ... exuberant, enthusiastic (7). Each item consists of a 7-point scale: 1 = Low purpose/meaning, 7 = High purpose/meaning. Total PIL Score = Sum of all 20 items (range 20 to 140). Higher scores indicate greater perceived meaning and purpose in life. Scores below 90 suggest a lack of meaning, while scores above 112 indicate a strong sense of purpose. The PIL demonstrates excellent internal consistency, with Cronbach's alpha values typically ranging from .81 to .92. In this study, Cronbach's alpha was .96.

3.6. Self-Reflection and Insight Scale

The Self-Reflection and Insight Scale (SRIS), developed by Grant, Franklin, and Langford (2002), consists of 20 items designed to assess two key dimensions of self-awareness: self-reflection and insight. Self-reflection refers to the tendency to examine one's own thoughts and feelings (e.g., "I frequently examine my feelings"), while insight reflects the ability to understand oneself (e.g., "I am usually aware of my thoughts"). Responses are rated on a 7-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Items 1, 2, and 17 are reverse-scored to ensure that higher scores consistently indicate greater self-awareness. Scores are calculated by summing items 1-12 for self-reflection, items 13-20 for insight, and all 20 items for the total SRIS score. The scale demonstrates strong internal reliability, with previous studies reporting Cronbach's alpha values between .82 and .87. In the present study, the overall reliability was excellent, with a Cronbach's alpha of .94.

3.7. Happiness Mindset Scale

The HMS aims to evaluate an individual's overall perspective on life and their tendency to approach challenges with a positive mindset, highlighting happiness and well-being as achievable goals (Van Tongeren & Burnette, 2018). The scale comprises 6 items and measures responses using a Likert scale that ranges from 1 (Strongly Disagree) to 7 (Strongly Agree), with a sample item being "You can change your basic happiness considerably." The items were reverse-coded to create a single factor score from the 6 items, where higher scores reflect a stronger belief in the growth mindset regarding happiness. The reliability ranged from 0.78 to 0.86. In this research, Cronbach's alpha was found to be 0.85.

3.8. Procedure

Data collection was carried out through online surveys. Convenience sampling and online data collection may affect representativeness, but measures were implemented to ensure response quality, such as screening completion times, identifying patterns, and preventing multiple submissions to reduce bias. Recruitment took place entirely online using a Google Form link. The study commenced by inquiring whether students were interested in participating. Subsequently, those who agreed were asked to complete the questionnaires, having been informed about the study and given their consent. Before participation, individuals were briefed on the study's goals and signed an informed consent document. Participants were guaranteed confidentiality and were made aware that they could opt out at any point without facing any repercussions. Participants were informed about the study's aim and provided their consent prior to filling out the questionnaires. The data was gathered anonymously and was only accessible to the lead researchers under secure conditions. Participants could withdraw at any time without penalties and had the option to request an explanation of the research findings if they desired. The study received ethical approval from the Khazar University Ethical Committee.

3.9. Data Analysis

SPSS version 26 was utilized for the data analysis, following a systematic, step-by-step procedure consistent with descriptive-correlational research methodology. Independent samples t-tests and one-way ANOVA were used to examine demographic differences. Cronbach's alpha coefficients were computed to assess the internal reliability of each scale. A two-tailed Pearson's correlation coefficient ($\alpha = 0.05$) was used to examine the bivariate relationships between the study variables, which is appropriate given the descriptive-correlational design and the continuous nature of the data. These analyses guided the selection of variables for regression models and the evaluation of the strength and direction of the associations. Finally, a hierarchical multiple regression analysis was conducted to examine the individual and collective effects of the independent variables on happiness mindset. The effect size (f^2) for the overall model was also calculated to assess the practical significance of the findings.

4. RESULTS

Table 1 presents the demographic distribution of participants (73.50 % female, 26.50 % male; M age = 23.76 years, SD = 3.93). All variables demonstrated acceptable normality indices (skewness and kurtosis $< \pm 2$). Mean scores indicated a moderately high sense of purpose (M = 87.51, SD = 24.42), average levels of optimism (M = 6.66, SD = 2.57), and a moderate happiness mindset (M = 24.63, SD = 4.21).

Table 1. Descriptive statistics of demographic variables.

Variables	Category	Frequency	Percentage (%)
Gender	Female	114	73.50
	Male	41	26.50
Age group	18–23 years	86	55.50
	24–29 years	54	34.80
	30–35 years	15	9.70
Education	Bachelor's	97	62.60
	Master's	44	28.40
	PhD and above	14	9.00
Marital status	Single	125	80.60
	Married	22	14.20
	Divorced	4	2.60
	Widowed	4	2.60
Job status	Student-Employed	86	55.50
	Student-Unemployed	69	44.50

Table 2 presents the descriptive statistics for the main study variables. Mean scores indicated that participants reported moderate levels of happiness mindset ($M = 24.63$, $SD = 4.21$), suggesting an overall balanced orientation toward happiness. The mean values for optimism ($M = 6.66$, $SD = 2.57$) and pessimism ($M = 5.71$, $SD = 2.01$) reflect average life orientation levels. Regarding emotion regulation, the mean for cognitive strategies ($M = 27.17$, $SD = 8.04$) was notably higher than that for expressive regulation ($M = 16.56$, $SD = 5.61$). Scores on cognitive flexibility were relatively high across both control ($M = 34.48$, $SD = 7.40$) and alternative ($M = 34.91$, $SD = 7.41$) dimensions. The mean for sense of purpose ($M = 87.51$, $SD = 24.42$) was also relatively high; similarly, self-reflection ($M = 56.87$, $SD = 13.43$) and self-insight ($M = 36.16$, $SD = 7.75$) suggested a fair degree of self-awareness and introspection among participants.

Table 2. Descriptive statistics for main variables.

Variables	M	SD	Skewness	Kurtosis
Happiness mindset	24.63	4.21	0.41	1.58
Life orientation-pessimism	5.71	2.01	-0.13	-0.31
Life orientation-optimism	6.66	2.57	-0.33	-0.56
Emotion regulation - cognitive	27.17	8.04	-0.41	-0.62
Emotion regulation - expressive	16.56	5.61	0.08	-0.73
Cognitive flexibility - control	34.48	7.40	-0.55	-0.30
Cognitive flexibility - alternative	34.91	7.41	-0.66	-0.18
Sense of purpose	87.51	24.42	-0.26	-0.52
Self-reflection	56.87	13.43	-0.50	0.05
Self-insight	36.16	7.75	-0.16	-0.34

Note: The distribution of all variables is approximately normal (skewness and kurtosis between ± 2).

Independent *t*-tests (Table 3) revealed no significant gender differences on any variable (all $p > 0.05$).

Table 3. Independent samples *t*-test for gender differences on study variables.

Variables	Female (n = 114) M (SD)	Male (n = 41) M (SD)	t(153)	p	Mean Diff.	95 % CI for Diff.
Happiness mindset	24.68 (4.79)	24.61 (4.01)	-0.10	0.920	0.07	[-1.17, 1.31]
Life orientation-pessimism	5.54 (2.18)	5.77 (1.96)	0.64	0.523	-0.23	[-0.96, 0.50]
Life orientation-optimism	6.68 (2.31)	6.65 (2.67)	-0.07	0.943	0.03	[-0.83, 0.89]
Emotion regulation – cognitive	27.39 (8.11)	27.10 (8.05)	-0.20	0.842	0.29	[-2.77, 3.35]
Emotion regulation – expressive	17.51 (5.66)	16.22 (5.58)	-1.27	0.207	1.29	[-0.73, 3.31]
Cognitive flexibility – control	35.12 (7.52)	34.25 (7.38)	-0.64	0.522	0.87	[-1.79, 3.53]
Cognitive flexibility – alternative	36.07 (7.15)	34.49 (7.48)	-1.17	0.242	1.58	[-1.08, 4.24]
Sense of purpose	87.93 (26.00)	87.36 (23.94)	-0.13	0.899	0.57	[-8.74, 9.88]
Self-reflection	54.80 (13.39)	57.61 (13.42)	1.15	0.252	-2.81	[-7.68, 2.06]
Self-insight	35.56 (7.26)	36.38 (7.94)	0.58	0.565	-0.82	[-3.65, 2.01]

Note: None of the variables showed significant differences between men and women (all $p > 0.05$). CI = Confidence Interval; M = Mean; SD = Standard Deviation.

One-way ANOVAs (Table 4) showed that job status significantly affected happiness mindset, $F(2, 152) = 3.37$, $p = 0.04$, and expressive emotion regulation, $F(2, 152) = 4.47$, $p = 0.01$. Education level influenced cognitive flexibility (Control: $F = 3.21$, $p = 0.04$; alternative: $F = 5.33$, $p = 0.01$). Marital status influenced optimism ($F = 3.07$, $p = 0.03$) and sense of purpose ($F = 4.86$, $p < 0.001$). Age showed no significant effects.

Table 4. Results for differences in study variables across demographic groups using One-Way ANOVA.

Variables	Age F(df ₁ , df ₂)	p	Education F(df ₁ , df ₂)	p	Marital F(df ₁ , df ₂)	p	Job F(df ₁ , df ₂)	p
Happiness mindset	0.75 (2, 152)	0.74	0.55 (2, 152)	0.58	1.05 (2, 152)	0.37	3.37 (2, 152)	0.04
Life orientation- pessimism	0.51 (2, 152)	0.94	1.25 (2, 152)	0.29	1.04 (2, 152)	0.38	0.27 (2, 152)	0.76
Life orientation- optimism	0.81 (2, 152)	0.67	2.24 (2, 152)	0.11	3.07 (2, 152)	0.03	0.50 (2, 152)	0.61
Emotion regulation – cognitive	0.70 (2, 152)	0.79	2.74 (2, 152)	0.07	1.80 (2, 152)	0.15	2.93 (2, 152)	0.06
Emotion regulation – expressive	0.97 (2, 152)	0.49	1.31 (2, 152)	0.27	1.31 (2, 152)	0.27	4.47 (2, 152)	0.01
Cognitive flexibility – control	1.15 (2, 152)	0.32	3.21 (2, 152)	0.04	0.44 (2, 152)	0.72	2.89 (2, 152)	0.06
Cognitive flexibility – alternative	1.29 (2, 152)	0.21	5.33 (2, 152)	0.01	0.40 (2, 152)	0.75	1.96 (2, 152)	0.14
Sense of purpose	0.97 (2, 152)	0.49	1.29 (2, 152)	0.28	4.86 (2, 152)	0.00	0.54 (2, 152)	0.58
Self-reflection	0.96 (2, 152)	0.51	0.96 (2, 152)	0.51	0.27 (2, 152)	0.85	2.78 (2, 152)	0.07
Self-insight	0.71 (2, 152)	0.78	1.06 (2, 152)	0.35	0.68 (2, 152)	0.56	2.90 (2, 152)	0.06

As shown in Table 5, happiness mindset correlated negatively with cognitive emotion regulation ($r = -0.28$, $p < 0.01$), optimism ($r = -0.22$, $p < 0.01$), and cognitive flexibility–control ($r = -0.20$, $p < 0.05$). Other relationships were nonsignificant ($p > 0.05$). These findings indicate that individuals relying heavily on cognitive control or over-regulation of emotions may experience a diminished happiness mindset.

Table 5. Correlations between happiness mindset and emotion regulation, optimism, cognitive flexibility, sense of purpose, and self-awareness.

Variables	1	2	3	4	5	6	7	8	9	10
1. Happiness mindset	1									
2. Life orientation- pessimism	0.15	1								
3. Life orientation- optimism	-0.22**	0.11	1							
4. Emotion regulation – cognitive	-0.28**	0.01	0.56**	1						
5. Emotion regulation – expressive	-0.15	-0.39**	-0.21*	-0.03	1					
6. Cognitive flexibility – control	-0.20*	0.17*	0.67**	0.58**	-0.15	1				
7. Cognitive flexibility – alternative	-0.13	0.21**	0.56**	0.53**	-0.19*	0.88**	1			
8. Sense of purpose	-0.13	0.15	0.62**	0.52**	-0.14	0.60**	0.61**	1		
9. Self-reflection	0.02	0.10	0.29**	0.42**	-0.16*	0.43**	0.49**	0.37**	1	
10. Self-insight	-0.09	0.06	0.41**	0.48**	-0.14	0.55**	0.57**	0.56**	0.75**	1

Note: $p < 0.05^*$, $p < 0.01^{**}$.

Table 6 reports that the regression model predicting happiness mindset was significant, $F(11, 143) = 2.85$, $p = 0.01$, explaining 15.2 % of the variance ($\Delta R^2 = 0.15$).

Cognitive emotion regulation emerged as a significant negative predictor ($\beta = -0.24$, $t = -2.26$, $p = 0.03$), while self-reflection approached significance ($\beta = 0.21$, $t = 1.77$, $p = 0.08$).

The Durbin–Watson statistic (2.06) confirmed independence of residuals. Age, gender, optimism, cognitive flexibility, sense of purpose, and self-insight were nonsignificant.

Table 6. Hierarchical multiple regression predicting happiness mindset.

Predictor	B	SE B	β	t	p	R	R ²	Adjusted R ²	F	p	Durbin-Watson
Step 1 – Control variables						0.02	0.001	-0.013	0.05	0.96	
Age	0.03	0.09	0.02	0.28	0.78						
Gender	0.55	0.77	0.06	0.71	0.48						
Step 2 – Psychological predictors						0.390	0.152	0.087	2.85	0.01	2.06
Life orientation-pessimism	0.22	0.18	0.10	1.21	0.23						
Life orientation-optimism	-0.21	0.19	-0.13	-1.07	0.29						
Emotion regulation – cognitive	-0.12	0.06	-0.24	-2.26	0.03						
Emotion regulation – expressive	-0.10	0.07	-0.14	-1.56	0.12						
Cognitive flexibility – control	-0.06	0.10	-0.11	-0.60	0.56						
Cognitive flexibility – alternative	0.00	0.01	0.01	0.04	0.97						
Sense of purpose	0.01	0.02	0.07	0.59	0.56						
Self-reflection	0.07	0.04	0.21	1.77	0.08						
Self-insight	-0.05	0.07	-0.08	-0.61	0.54						

Note: B = unstandardized coefficient; β = standardized coefficient; CI = confidence interval. $p < 0.05$ significant; $p < 0.01$ highly significant. The overall model was significant, $F(11, 143) = 2.848$, $p = 0.01$. $\Delta R^2 = 0.15$. Residuals were independent (Durbin-Watson = 2.06).

To assess potential multicollinearity among the predictors, the Variance Inflation Factor (VIF) and Tolerance statistics were examined. As shown in Table 7, the VIF values ranged from 1.07 to 5.51, while the corresponding Tolerance values ranged from 0.12 to 0.94. Although most predictors fell within acceptable limits ($VIF < 5$, Tolerance > 0.2), two variables, cognitive control ($VIF = 5.51$, Tolerance = 0.18) and cognitive alternative ($VIF = 5.14$, Tolerance = 0.12), exceeded the recommended thresholds, indicating the presence of multicollinearity. This suggests that these variables share a substantial amount of variance with other predictors in the model, potentially reducing their unique predictive contribution.

Table 7. Collinearity diagnostics of Hierarchical multiple regression predicting happiness mindset.

Model	Collinearity diagnostics	Tolerance	VIF
1	(Constant)		
	Age	0.94	1.07
	Gender	0.94	1.07
2	(Constant)		
	Age	0.90	1.11
	Gender	0.90	1.12
	Life orientation-pessimist	0.80	1.25
	Life orientation-optimist	0.43	2.34
	Emotion regulation-cognitive	0.55	1.84
	Emotion regulation-expressive	0.79	1.27
	Cognitive flexibility-control	0.18	5.51
	Cognitive flexibility-alternative	0.12	5.14
	Sense of purpose	0.45	2.23
	Self-reflection	0.41	2.47
	Self-insight	0.33	3.03

5. DISCUSSION

This research explored the relationship between emotion regulation, optimism, cognitive flexibility, sense of purpose, and self-awareness in predicting a happiness mindset among university students. The findings offered partial support for the hypotheses, indicating that only cognitive emotion regulation had a significant negative impact on happiness mindset. This suggests that while regulating emotions is important, excessive cognitive control may hinder

genuine happiness. The negative relationship observed between cognitive emotion regulation and happiness mindset suggests that overanalyzing emotions or constantly using unproductive regulation methods (such as rumination or suppression) can diminish positive feelings. This is consistent with Gross's process model of emotion regulation, which posits that excessive control or improper use of regulation techniques can affect emotional authenticity and overall well-being (Gross, 1998). Recent meta-analytic findings similarly caution that frequent reliance on suppression and avoidance tactics is associated with decreased life satisfaction and increased distress (Boemo et al., 2022). At the same time, studies indicate that flexible regulation, which adapts strategies to the context, is more conducive to well-being compared to rigid overcontrol (Tsujiimoto et al., 2024). For young adults, optimism that is not linked to realistic emotional processing may serve as a form of defensive positivity instead of true happiness. This perspective aligns with research by Kaynak, Denizci Nazlıgöl, and Cengil (2024), who found that a balanced form of optimism augmented by mindfulness was a better predictor of lasting well-being than uncontrolled optimism. Their study of university students revealed that those exhibiting high optimism paired with low mindfulness experienced less consistent well-being over time compared to peers whose optimism was coupled with mindful awareness. Their findings are somewhat aligned with the current study results; unmoderated optimism did not promote a happiness mindset, implying that optimism alone, in the absence of emotional awareness, may not be enough.

Neither control nor the alternative aspects of cognitive flexibility seemed to influence the happiness mindset, which differs from previous studies connecting flexibility to psychological well-being. One possible explanation is that cognitive flexibility might improve adaptive functioning mainly in situations of uncertainty or hardship, rather than in the relatively stable academic environment (Alsaif, Hassan, Alzain, Almishaal, & Zahra, 2024). In our study group, the structured and predictable nature of university life may have diminished the impact of flexibility on perceived happiness. A sense of purpose did not significantly correlate with a happiness mindset, which is at odds with earlier research indicating that having a life purpose contributes to psychological health (Fang et al., 2024; Hill et al., 2018). The younger age of the participants may account for this trend: emerging adults often prioritize exploration over the establishment of a clear purpose, resulting in weaker connections between purpose and happiness. Self-reflection showed a marginally positive influence on the happiness mindset, aligning with findings from Wagani and Gaur (2024) that suggest self-awareness training can enhance college students' psychological well-being. However, excessive self-reflection without constructive insights might lead to rumination or self-criticism, especially in more vulnerable individuals (Slonova, 2023). Moderate self-reflection that promotes insight, rather than focusing on negative thoughts, is key to developing a happiness mindset. The limited role of self-insight suggests that awareness alone isn't sufficient without emotional integration. Thus, a happiness mindset depends on balanced reflection that enhances understanding without over-analysis. In line with the findings of Diener, Oishi, and Tay (2018), factors such as gender, age, and education did not have a significant impact on happiness. Conversely, job status exhibited slight connections with constructs related to happiness, likely due to the increased sense of responsibility, purpose, and social support found in individuals who are employed (Ryff & Keyes, 1995; Steptoe, 2019). Job status meant the employment status of students. Participants were divided into two groups: contrasting student-employee and student-unemployed participants. Although several bivariate correlations reached statistical significance (small-to-moderate effect sizes), the multiple regression analysis identified only one significant predictor (cognitive emotion regulation) of the dependent variable. The examination of multicollinearity diagnostics revealed that some predictors, particularly cognitive control and cognitive alternative, exhibited high VIF values, suggesting overlapping variance among the cognitive-related constructs. However, because only two variables crossed the threshold, there was mild to moderate multicollinearity, not severe. This overlap was likely the main reason that only one significant predictor remained. The happiness mindset showed significant negative correlations with cognitive emotion regulation, optimism, and the control aspect of cognitive flexibility. However, hierarchical regression analysis revealed that only cognitive emotion regulation was a significant factor. This may be due to multicollinearity among cognitive flexibility components, as indicated by high Variance Inflation Factor values. When predictors share

variance, their individual effects can appear weaker, making it essential to interpret the nonsignificant regression results for optimism and the control aspect cautiously, as shared variance may mask their relationships with the happiness mindset. This overlap may have suppressed the unique contribution of individual predictors when entered simultaneously into the regression model. In other words, while these variables are individually related to the outcome, they explain similar portions of the variance in the dependent variable, leading to redundancy in the regression model.

6. IMPLICATIONS

These results suggest that cognitive processes related to emotion management and self-awareness can enhance or hinder happiness based on their adaptability. They underscore the importance of distinguishing between adaptive and overcontrolled regulation within positive psychology. Practically, programs designed to enhance happiness should focus on fostering emotional flexibility, mindfulness, and a balanced approach to cognitive regulation instead of strictly enforcing self-control. Approaches like mindfulness-based cognitive therapy or acceptance and commitment therapy can assist individuals in engaging with their emotions openly while preserving self-awareness. Educational environments may gain from the inclusion of modules on emotional intelligence and happiness literacy, promoting reflective yet nonjudgmental self-awareness and a realistic sense of optimism.

7. LIMITATIONS

First, the cross-sectional nature precludes causal inference. Future research should employ longitudinal or experimental designs. Second, all constructs were self-reported, increasing susceptibility to social desirability and common method bias. The sample was limited to university students in one cultural context; broader and more diverse samples are necessary for generalization. Also, the internal consistency of the LOT-R is relatively modest, which might have reduced the accuracy of optimism measurements. Third, given the reliance on convenience sampling and online recruitment, it is essential to recognize the potential for selection bias and the limitations in generalizability. Finally, the model explained 15 % of variance, suggesting other unmeasured factors (e.g., personality traits, resilience) may play larger roles.

8. CONCLUSION

This study shows that cognitive emotion regulation negatively impacts happiness in emerging adults, while self-reflection has a slight positive effect. Optimism, cognitive flexibility, purpose, and self-insight were not significant predictors. The findings suggest that over-regulating emotions can hinder genuine happiness. Future interventions should focus on mindful awareness, emotional acceptance, and reflective thinking, rather than rumination, to foster a sustainable happiness mindset. This highlights happiness as a dynamic interplay between cognitive control and emotional openness.

Funding: This study did not receive any specific financial support from a funding agency, a commercial entity, or a not-for-profit organization.

Institutional Review Board Statement: This study was approved by the Institutional Review Board of [Khazar University, Azerbaijan] University Ethical Committee, under protocol number 1-2025/2026, dated 11/17/2025. Informed verbal consent was obtained from all participants, and all data were anonymized to protect participant confidentiality.

Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

Competing Interests: The authors declare that they have no competing interests.

Authors' Contributions: Both authors contributed equally to the conception and design of the study. Both authors have read and agreed to the published version of the manuscript.

Disclosure of AI Use: The authors employed OpenAI's ChatGPT and Trinka to aid in language refinement, clarity enhancements, and formatting for some sections of the manuscript. The authors reviewed and verified all content produced by AI.

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