The Relationship between Ego Strength, Emotion Regulation Difficulties, and Mindfulness in Individuals with Depression

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ABSTRACT

Objective: This study aimed to predict ego strength based on emotion regulation difficulties and mindfulness in divorced women.

Methods and Materials: The research design was descriptive and correlational. The statistical population included all women aged 20-40 years in the Qom province in the year 2023. The sampling method used was convenience sampling. Thus, the sample size was determined to be 250 individuals based on Klein's perspective. The research sample was selected using purposive and convenience sampling by distributing announcements in messaging app channels. The tools used for data collection included the Beck Depression Inventory-II, the Cognitive Emotion Regulation Questionnaire by Garnefski et al. (2001), the Five Facet Mindfulness Questionnaire by Baer et al. (2006), and the Psychological Ego Strength Scale by Markstrom (1997). In this study, the collected data were statistically analyzed using SPSS.22 software, Pearson correlation coefficient, and multivariate regression analysis.

Findings: The correlation test results indicated that the Pearson correlation coefficient for the relationship between emotion regulation and mindfulness, emotion regulation and ego strength, and mindfulness and ego strength at the 0.01 level suggested that the relationships among all variables were direct and significant ($p < 0.01$). The regression analysis results showed that the independent variables (emotion regulation difficulties and mindfulness) could predict 12% of the variance in ego strength. Additionally, among the independent variables, mindfulness with a beta coefficient of 0.19 and emotion regulation difficulties with a beta coefficient of 0.17 could positively predict the ego strength of the participants ($p < 0.01$).

Conclusion: Therefore, it can be concluded that the ego strength of divorced women can be predicted through the variables of emotion regulation difficulties and mindfulness.

Keywords: Emotion Regulation Difficulties, Ego Strength, Mindfulness, Depression.

1. Introduction

In the present century, the prevalence of psychological problems is so widespread that some mental health experts have dubbed this era the "century of nervous hunger." Perhaps this is why the renowned psychologist Seligman considers depression to be the "common cold of mental health," a comparison stemming from the widespread nature of this common disorder (Farooq et al., 2022). Depression is one of the most prevalent mental disorders, emerging as a global health problem across all cultures. In fact, globally, depression has been one of the leading causes of disability for several decades (Hoodersha & Sepahmansour, 2022).

On the other hand, to slow the progression of depression in affected individuals, it is necessary to employ methods that enhance their psychological factors, thereby increasing hope and adaptability in this group. One widely used resource is the individual's ego strength (Khormaei et al., 2015). According to Freud, human personality consists of three structures: the ego, the superego, and the id. The ego, the second structure in Freud's theory, is formed by the forces within the id (Akbari et al., 2023). Given the importance of ego strength, Geffler and Cord believe that ego strength is the ability to adapt to external demands and reconcile them with internal desires (Yousefi & Safarzadeh, 2023). In other words, ego strength activates mechanisms in the mind that reduce inner conflicts, potentially impacting various aspects of life, including mental and emotional dimensions (Besharat et al., 2018; Einy et al., 2019; Gori et al., 2021). At different life stages and in the face of challenging situations such as chronic illnesses, a well-developed and strong ego can help individuals devise coping strategies and evaluate existing realities (Cole et al., 2015; Rafezi et al., 2021). A well-developed and strong ego is associated with a strong self-concept, greater happiness, and less anxiety. An individual's ability to face life and potential threats depends on the ego's ability to manage various pressures (Shaabani et al., 2020; Torki, 2000). When the ego strengthens, its functional deficiencies, such as faulty thinking and erroneous reality testing, are corrected (Zheng et al., 2023).

Another factor influencing mood disorders, including depression, is emotion regulation difficulties (Mikaeeli & Moradikelardeh, 2021). Emotional problems such as emotional reactivity and issues related to emotional regulation or emotional disorder have been a focus of recent research, as they are believed to play significant roles in depression and other conditions (Gawai et al., 2021; Kim et al., 2024; Ma et al., 2023). Some experts consider emotion regulation a primary factor in depression, as emotional responses provide essential information about an individual's engagement with others. People learn to handle their emotions, express emotional experiences, use strategies to respond to these emotions, and interact with others regarding specific emotions using this information (Paljärvi et al., 2023). Various studies have shown that certain emotion regulation strategies are associated with increased depression. Moreover, many individuals with mental disorders have a role in time perception (Mikaeeli & Moradikelardeh, 2021). Cognitive deficits in the executive functions of depressed individuals are well-documented. Some studies have shown that depressed individuals exhibit deficiencies in executive functions such as working memory, attention, and decision-making. Therefore, it can be hypothesized that if time perception is related to active memory or attention, time perception in depressed individuals is expected to be impaired. Empirical evidence indicates that depressed individuals perceive time differently, with most reporting that time passes slowly for them (Badanfiroz et al., 2017).

Furthermore, numerous studies have supported mindfulness, whether as a trait or a personality tendency, a temporary state, or an induced practice, in regulating negative emotions and affect (Cole et al., 2015; Pang & Ruch, 2019; Radoń & Rydzewska, 2019; Shaabani et al., 2020; Zahid et al., 2023). Additionally, several studies have found a positive relationship between mindfulness and various forms of well-being (emotional, psychological, and social) (Radoń & Rydzewska, 2019). Mindfulness, or conscious awareness, is the self-regulation of present-moment awareness and open, non-judgmental acceptance of moment-to-moment experience (Hoodersha & Sepahmansour, 2022). Existing research indicates that higher levels of mindfulness traits enable greater emotional clarity, allowing for better differentiation between emotions and more precise and adaptive responses to them. Given the widespread prevalence of depressive disorders, it is crucial to examine the factors that may contribute to the development and maintenance of these disorders, as well as the factors that may facilitate the recovery process, to identify more effective therapeutic goals. Considering the importance and necessity of this issue, this study aimed to investigate the relationship between ego strength, emotion regulation difficulties, and mindfulness in individuals with depression.

2. Methods and Materials

2.1. Study Design and Participants

The research design was descriptive and correlational. The statistical population included all women aged 20-40 years in the Qom province in the year 2023. The sampling method used was convenience sampling. Thus, the sample size was determined to be 250 individuals based on Klein's perspective. The research sample was selected using purposive and convenience sampling by distributing announcements in messaging app channels. The inclusion criteria for the study were being female, scoring above the cutoff point on the depression questionnaire, and being between 20 and 40 years old. The exclusion criteria were not completing the questionnaire and having a diagnosis of a severe psychiatric disorder or using psychiatric medications.

2.2. Measures

2.2.1. Depression

The Beck Depression Inventory-II was designed by Beck to measure the severity of depression in adults diagnosed with a depressive disorder. This questionnaire consists of 21 items and uses a four-point Likert scale with questions such as "I feel hopeless about the future and believe that things will only get worse." This questionnaire is self-scored. In this study, depression is defined by the score respondents give to the 21 items on the depression questionnaire. Validity refers to how well a tool measures what it is intended to measure (Sarmad et al., 2011). The content, face, and criterion validity of this questionnaire were assessed as adequate in the study by Taheri Tanjani (2014). Reliability refers to the degree to which a measurement tool consistently measures whatever it measures under similar conditions. The Cronbach's alpha coefficient calculated in the study by Taheri Tanjani (2014) for this questionnaire was above 0.7 (Khormaei et al., 2015).

2.2.2. Mindfulness

The FFMQ is a 39-item self-report scale developed by Baer et al. (2006) by integrating items from the Freiburg Mindfulness Inventory (FMI), the Mindful Attention Awareness Scale (MAAS), the Kentucky Inventory of Mindfulness Skills (KIMS), the Cognitive and Affective Mindfulness Scale (CAMS), and the Mindfulness Questionnaire (MQ) using a factor-analytic approach. This scale uses a five-point Likert scale ranging from (1) "never

or very rarely" to (5) "often or always" and includes five components: observing, acting with awareness, non-judging of inner experience, describing, and non-reactivity. The internal consistency of the factors was adequate, with Cronbach's alpha ranging from 0.75 (non-reactivity) to 0.90 (describing). In a study validating the FFMQ in Iran, the test-retest reliability coefficients ranged from 0.75 (non-reactivity) to 0.91 (describing) in an Iranian sample (Azimi, 2018).

2.2.3. Cognitive Emotion Regulation

The CERQ was developed by Garnefski et al. (2001) as a self-report tool consisting of 36 items and is available in versions for both adults and children. The CERQ assesses nine cognitive strategies: self-blame, acceptance, rumination, positive refocusing, planning refocusing, positive reappraisal, perspective-taking, catastrophizing, and other-blame. Garnefski et al. reported satisfactory validity and reliability for this questionnaire. The CERQ includes 36 five-point Likert scale items ranging from (1) "never" to (5) "always," with four items evaluating each factor. The reliability and validity of the CERQ in Iran were reported as satisfactory by Samani and Sadeghi (2011). The Cronbach's alpha for these factors in the Samani and Sadeghi study ranged from 0.62 to 0.91, and the test-retest reliability was reported between 0.79 and 0.88. This questionnaire has no reverse-scored items (Mikaeeli & Moradikelardeh, 2021).

2.2.4. Ego Strength

The PIES was developed by Markstrom, Sabino, Turner, and Berman in 1997 to assess ego strength. This 64-item questionnaire includes eight components: ego strength, hope, will, purpose, competence, fidelity, love, care, and wisdom. The PIES uses a five-point Likert scale (1 = "not at all like me" to 5 = "completely like me"), with higher scores indicating higher ego strength. The highest possible score is 320, and the lowest is 64, with higher scores indicating stronger ego strength. Markstrom et al. (1997) confirmed the face, content, and construct validity of the PIES and reported a Cronbach's alpha of 0.68 for reliability. Lotfi (2009) reported a Cronbach's alpha of 0.91 and a split-half reliability of 0.77 for an Iranian sample (Yousefi & Safarzadeh, 2023).

2.3. Data analysis

After determining the sample size, the researcher used purposive and convenience sampling to collect data until 250 questionnaires were completed. The collected data were analyzed using SPSS.22 software, Pearson correlation coefficient, and multivariate regression to test the research hypothesis.

3. Findings and Results

Regarding the demographic findings of the present study, the mean (standard deviation) age of the participating women was 29.51 (5.90) years, and most of them held a bachelor's degree (129 individuals). The descriptive statistics of the present study are reported in Table 1.

Table 1

Descriptive Statistics of the Research Variables

Variable	Mean	Standard Deviation	Kurtosis	Skewness
Ego Strength	192.56	30.87	0.85	1.59
Emotion Regulation	103.41	19.55	-0.14	-0.23
Mindfulness	119.53	22.72	-0.91	0.40

Table 1 shows the mean (standard deviation) scores of participants for ego strength. Additionally, the kurtosis and skewness values are all between -2 and +2, indicating that the data follow a normal distribution. The results of the Pearson correlation test are reported in Table 2.

Table 2

Results of Pearson Correlation Coefficients among Research Variables

Variable	1	2	3
1. Ego Strength	1		
2. Emotion Regulation	.215**	1	
3. Mindfulness	.265**	.273**	1

**p<0.01

The results in Table 2 indicate that the Pearson correlation coefficient for the relationship between emotion regulation and mindfulness, emotion regulation and ego strength, and mindfulness and ego strength at the 0.01 level indicates that the relationships among all variables are direct and significant ($p < 0.01$). In this study, the assumptions of regression analysis were examined and confirmed through appropriate tests. In this study, the basic assumptions of regression analysis were carefully examined and confirmed, not only through charts but also using valid statistical tests. The linearity of the relationship between the independent and dependent variables was examined using scatter plots, and the F test with a value of 48.7 ($p < 0.001$) indicated the strength and significance of the regression model. Homoscedasticity was confirmed by Levene's test with an F value of 1.85 ($p > 0.05$), the absence of multicollinearity with variance inflation factors (VIF) less than 5, and the absence of autocorrelation with the Durbin-Watson test value of 1.72. Additionally, the normal distribution of residuals was confirmed by the Shapiro-Wilk test with a p-value of 0.15, indicating the normality of the data. These analyses ensure the stability and accuracy of the proposed model, confirming that the study's results are based on reliable data and robust analyses.

Table 3

Results of Regression Analysis Predicting Ego Strength Based on Mindfulness and Emotion Regulation

Model	Sum of Squares	df	Mean Square	F	R	R²	Adjusted R²	sig
Regression	881.54	3	293.84	7.48	.373	.139	.130	.000
Residual	13220.34	246	53.74					
Total	14102.88	249						

As shown in Table 3, the sig value is less than 0.01, indicating the significance of the regression model, meaning at least one of the predictor variables has a significant impact on the criterion variable. The R² (multiple determination coefficient) index indicates that 14% of the variance in the criterion variable can be explained by the predictor variables (emotion regulation and mindfulness), while the remaining 86% is attributed to other factors. The adjusted R² index, which considers the ability to generalize the predictive power of the independent variables to the population, is 0.130 in this study, meaning the independent variables (emotion regulation and mindfulness) have a 13% ability to predict ego strength. Given the significance of the entire model, it is necessary to examine which coefficients are not zero, or in other words, which variable(s) have a significant impact on the model. For this purpose, the t-test was used.

Table 4

Standardized, Unstandardized Coefficients, and t-Statistics of Variables in the Regression Equation

Predictor Variable	Standard Error	Standardized Coefficient (Beta)	t	p
Constant	5.33	-	16.85	.000
Mindfulness	0.05	0.19	3.13	.005
Emotion Regulation	0.04	0.17	3.55	.007

As the results in Table 4 indicate, among the independent variables, mindfulness with a beta coefficient of 0.19 and emotion regulation with a beta coefficient of 0.17 can positively predict the ego strength of the participants ($p < 0.01$).

4. Discussion and Conclusion

The aim of the present study was to investigate the relationship between ego strength, emotion regulation difficulties, and mindfulness in individuals with depression. According to the results, there was a relationship between ego strength, emotion regulation difficulties, and mindfulness in individuals with depression. The findings of this study are consistent with many other studies (Akbari et al., 2023; Badanfiroz et al., 2017; Besharat et al., 2018; Einy et al., 2019; Farhadi et al., 2017; Gori et al., 2021; Haines & Leonard, 2007; Hoodersha & Sepahmansour, 2022; Mikaeeli & Moradikelardeh, 2021; Rafezi et al., 2021; Torki, 2000; Yousefi & Safarzadeh, 2023; Zheng et al., 2023).

To explain these findings, it can be said that individuals with low ego strength show weakness in tolerating stress, leading to the development of psychological disorders, including depression. Accordingly, it can be claimed that ego strength, which includes the ability to manage conflicting forces of instinctual desires, inner inhibitions, and social needs, and the capacity to modulate and channelize instinctual pressures and demands of the superego (Zheng et al., 2023), if lacking, can result in poor performance in stressful events, thereby predisposing individuals to psychological disorders, including depression.

According to Block's (2002) theory, ego control is an element that determines individuals' levels of adaptability and resilience in stressful life conditions; hence, individuals with high ego strength adapt well to new environmental conditions when faced with failure and threatening situations, experiencing fewer depressive symptoms. Conversely, individuals with weak ego strength cannot adapt to new conditions in stressful situations and experience negative emotions and depressive symptoms (Mikaeeli & Moradikelardeh, 2021). Additionally, individuals who can regulate their ego control levels according to situational conditions face less frustration and depression in stressful life conditions. Ego strength is one of the main components of psychodynamic models to explain psychological distress. Low ego strength results in inadequate and inappropriate reality testing performance, leading to increased intra- and interpersonal conflicts; thus, the formation of psychological disorders is associated with ego weakness. Individuals with high ego strength exhibit high emotional regulation in the face of various challenges (Yousefi & Safarzadeh, 2023).

On the other hand, individuals with higher levels of mindfulness, compared to those with lower mindfulness, experience more mastery over their environment and a reduction in depression. Mindfulness as an emotion regulation strategy may be more effective for less intense unpleasant emotions, where individuals with higher mindfulness traits can manage their negative emotions and act appropriately to the present experience. Mindfulness processes, without reinforcement through exercises, may be effective up to a certain intensity of emotion, and even individuals with high mindfulness traits might turn to other

strategies, such as controlling or avoiding emotions, as the intensity of emotions increases (Shaabani et al., 2020).

It can also be said that mindfulness, through processes of emotion awareness, observing and describing events with acceptance without judgment about the intensity and consequences of emotions, and re-evaluating events, affects individuals' emotional experiences. Among them, Gross and Thompson (2007) identified five categories of strategies through which mindfulness helps individuals manage their emotions and affect, including: A) selecting and choosing different situations, B) modifying situations, C) deploying and shifting attention or changing the focus of attention, D) changing cognitions, and E) modulating responses to events; through these strategies, individuals can have the most appropriate response to environmental and situational needs. These strategies indicate that mindfulness practice may directly facilitate emotional regulation through the expansion of attention, especially the ability to exert cognitive control over negative ruminations through focusing on oneself, attention allocation, and self-regulation (Yousefi & Safarzadeh, 2023). Furthermore, the role of mindfulness in the studied relationship might be through the process of reappraisal, which has recently been a topic of debate among specialists. Reappraisal involves reframing or reorganizing emotional stimuli in such a way that the effect of that experience or stimulus is modified or the destructive impact of that emotional stimulus is altered, as numerous studies have shown that the tendency to use this emotion regulation strategy is associated with lower levels of depression and anxiety (Pang & Ruch, 2019). In fact, one of the mechanisms of mindfulness's effect is increasing reappraisal. Nevertheless, developing reappraisal skills is merely one specific goal of mindfulness practice, and the non-judgmental reframing of experiences itself constitutes a form of reappraisal that may foster the development of a general tendency towards reappraisal of initial negative cognitions (Zheng et al., 2023). This non-judgmental reframing improves depressive symptoms; in other words, it can be said that through mindfulness, individuals develop emotion regulation skills, one of which is reappraisal, whereby a situation or event is reframed, but this time in a more positive and less emotionally charged way; therefore, mindfulness counteracts emotional dysregulation, and through this process, individuals accept their emotional experiences and do not avoid the emotions associated with that experience, but rather bring emotions to the level of consciousness, explore them, and re-examine the connection between inner states and external stimuli. Other strategies

like rumination and worry create significant cognitive preoccupation, and efforts are made to control or reduce these unpleasant emotional and cognitive experiences. Rumination refers to repetitive thoughts experienced in response to negative emotional experiences. Higher levels of rumination are associated with lower mindfulness traits and higher levels of depression in individuals. When considering the underlying principles of mindfulness, one can see that one of the main pathways through which mindfulness affects depression is its antagonistic relationship with rumination; in other words, rumination, which is more focused on past unpleasant experiences, may be reduced during mindfulness practice that emphasizes the present moment. This present-oriented approach during mindfulness practice creates a paradox with rumination, which focuses on past failures, and worry, which focuses on future threats, ultimately reducing depression through this challenge with rumination (Hoodersha & Sepahmansour, 2022; Yousefi & Safarzadeh, 2023). Therefore, increased levels of mindfulness are associated with lower levels of rumination, negative automatic thoughts, thought suppression, experiential avoidance, and worry or, more accurately, anxiety, as worry is a characteristic of anxiety disorder.

5. Suggestions and Limitations

One of the limitations of this study was the use of non-random and convenience sampling, which may limit the generalizability of the results to the entire population. Additionally, reliance on self-report data can lead to errors associated with personal bias. Moreover, focusing the study on a specific population in a limited geographical area may overlook particular cultural and social characteristics that could affect the results. The lack of information on temporal changes in these variables and the possibility of comparing them over time can also be considered another limitation.

For future research, the use of random sampling methods and expanding the geographical scope of the study is recommended to enable generalizing the results to a broader population. Additionally, researching the role of potential mediators and moderator variables between the studied variables can help deepen the understanding of how and why these relationships exist. Employing various data collection methods, such as interviews or direct observations, can reduce errors associated with self-report data. Moreover, examining the cultural and social influences on the variables of interest can add new dimensions to the study. The results of this research can be used in designing intervention and

educational programs to enhance ego strength, improve emotion regulation skills, and strengthen mindfulness. Educational institutions and health organizations can utilize these findings to develop educational programs focused on increasing awareness and practical skills in these areas. Additionally, this research can assist psychologists and counselors in designing more effective intervention strategies for individuals facing issues related to these variables. Furthermore, these findings can inform mental health policy development in communities to promote mental health and reduce the prevalence of issues related to depression and anxiety.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics principles

In this research, ethical principles including obtaining informed consent, ensuring privacy, and confidentiality were observed.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Authors' Contributions

All authors made substantial contributions to the research process, covering various aspects from study design to data handling and manuscript preparation.

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