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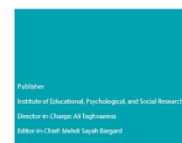
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## The Relationship of Mental Health, Mindfulness, and Resilience with the Prevalence of Depression in Diabetic Patients in Rasht City

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### ABSTRACT

**Purpose:** The present study aimed to examine the relationship between mental health, mindfulness, and resilience with depression among diabetic patients in Rasht city.

**Methods and Materials:** This applied study employed a descriptive correlational design. The statistical population consisted of all diabetic patients aged 30 to 60 years who were referred to hospitals in Rasht city in 2025, totaling 476 individuals. Using Cochran's finite population formula and convenience sampling, 316 participants were selected. Data were collected using the Beck Depression Inventory (Beck et al., 1996), the Mental Health Questionnaire (Besharat, 2009), the Connor-Davidson Resilience Scale (Connor & Davidson, 2003), and the Five Facet Mindfulness Questionnaire (Baer et al., 2006). Data were analyzed using SPSS version 24. Descriptive statistics were used to summarize the data, and inferential statistics, including Pearson correlation and multiple regression analysis, were employed to examine the relationships and predictive roles of mental health, mindfulness, and resilience in depression.

**Findings:** The results of multiple regression analysis indicated that mental health had a significant negative relationship with depression,  $F(2, 313) = 17.36, p = 0.002$ , explaining 13.7% of the variance in depression. Mindfulness also demonstrated a significant negative relationship with depression,  $F(5, 310) = 14.36, p = 0.001$ , accounting for 21.4% of the variance. Furthermore, resilience showed a significant negative relationship with depression,  $F(4, 311) = 15.63, p = 0.001$ , explaining 34.8% of the variance in depression. Regression coefficients indicated that psychological well-being, mindfulness components, and resilience components were all significant negative predictors of depression ( $p < 0.01$ ), with resilience demonstrating the strongest predictive effect.

**Conclusion:** The findings indicate that mental health, mindfulness, and resilience are significant protective psychological factors associated with reduced depression among diabetic patients, highlighting the importance of strengthening these psychological resources in order to improve mental health and reduce depressive symptoms in this population.

**Keywords:** Depression, Mental Health, Mindfulness, Resilience, Psychological Factors.

## 1. Introduction

Depression is one of the most prevalent and debilitating mental health disorders worldwide and represents a major public health concern, particularly among individuals with chronic medical conditions. It is characterized by persistent sadness, loss of interest or pleasure, cognitive dysfunction, and physiological disturbances that significantly impair daily functioning and quality of life. Contemporary epidemiological and clinical research has demonstrated that depression is not only widespread but also associated with severe psychological, social, and medical consequences, including reduced adherence to treatment, increased morbidity, and decreased overall well-being (Moya-Salazar, 2025; Ortlund et al., 2025). Depression has been identified as a central psychological factor influencing mental health outcomes across diverse populations, including medical patients, women, students, and vulnerable groups, highlighting its multidimensional and pervasive nature (Pingeton et al., 2025; Silva et al., 2025). Moreover, depression often interacts with other psychological and environmental variables, such as stress, anxiety, and social factors, reinforcing its complexity and the necessity of investigating its underlying psychological determinants (He et al., 2025; Pederson et al., 2025).

Chronic illnesses, including diabetes, represent a particularly vulnerable context for the development and maintenance of depressive symptoms due to the ongoing psychological burden associated with disease management, lifestyle restrictions, and physiological dysregulation. Diabetes is a lifelong metabolic disorder that requires continuous self-management and behavioral adaptation, often resulting in emotional distress, psychological strain, and increased risk of mental health disorders. Studies have consistently demonstrated that individuals with chronic medical conditions are significantly more likely to experience depression compared to the general population, due to the interaction between physiological stressors and psychological vulnerability (Štánerová & Novotná, 2025; Štánerová et al., 2025). Chronic illness creates persistent psychological stress, which may lead to emotional dysregulation, reduced coping capacity, and increased susceptibility to depressive symptoms. Furthermore, depression in individuals with chronic conditions can worsen health outcomes by impairing motivation, reducing adherence to treatment regimens, and increasing physiological stress responses, thereby creating a reciprocal and self-reinforcing cycle between physical illness and

psychological dysfunction (Kaiser et al., 2025; Silva et al., 2025).

Mental health is a multidimensional construct encompassing emotional, psychological, and social well-being, and it plays a crucial role in determining individuals' ability to cope with stress, maintain functional relationships, and adapt to challenging life circumstances. Poor mental health has been strongly associated with increased vulnerability to depression, as individuals with lower levels of psychological well-being and higher levels of psychological distress are less capable of regulating emotions and managing stress effectively. Mental health reflects both the presence of positive psychological functioning, such as emotional stability and life satisfaction, and the absence of negative psychological states, such as anxiety, distress, and depressive symptoms (Cleofas, 2025; Mangoulia et al., 2024). Research has shown that mental well-being is significantly associated with emotional resilience, coping effectiveness, and overall psychological adjustment, which are essential factors in protecting individuals against depression (Liu et al., 2025; Pederson et al., 2025). Conversely, psychological distress and poor mental health functioning are associated with increased emotional vulnerability, impaired cognitive processing, and greater susceptibility to depressive symptoms (Moya-Salazar, 2025; Ortlund et al., 2025).

Mindfulness has emerged as a key psychological construct associated with mental health and emotional regulation. Mindfulness refers to the ability to maintain present-moment awareness with openness, acceptance, and nonjudgmental attention. It involves the regulation of attention, emotional awareness, and cognitive flexibility, allowing individuals to respond adaptively to internal and external experiences rather than reacting automatically to stressors. Theoretical and empirical evidence suggests that mindfulness plays a protective role against depression by enhancing emotional regulation, reducing rumination, and promoting adaptive cognitive processing (Heo & Jang, 2025; Wang & Chen, 2025). Individuals with higher levels of mindfulness demonstrate greater psychological flexibility, improved emotional control, and lower levels of depressive symptoms, highlighting its significance as a protective psychological factor. Mindfulness-based interventions have been shown to significantly reduce depressive symptoms and improve emotional functioning across clinical and non-clinical populations (Acikgoz & Karaca, 2025; Bakhtiari et al., 2025). Furthermore, systematic reviews and meta-analyses have confirmed the

effectiveness of mindfulness-based interventions in reducing depression and improving psychological well-being, particularly among individuals experiencing chronic stress or medical conditions (Kaiser et al., 2025; Štánerová et al., 2025).

In addition to mindfulness, resilience has been identified as a critical protective factor against depression. Resilience refers to the capacity to adapt successfully in the face of adversity, stress, or trauma, and it plays a central role in maintaining psychological stability and emotional well-being. Individuals with higher levels of resilience demonstrate greater emotional regulation, adaptive coping strategies, and psychological flexibility, which protect them against the development of depressive symptoms. Resilience enables individuals to manage stress effectively, maintain positive psychological functioning, and recover from emotional challenges (Yan et al., 2024; Yan et al., 2025). Research has demonstrated that resilience is negatively associated with depression and positively associated with psychological well-being, indicating that individuals with greater resilience experience lower levels of emotional distress and improved mental health outcomes (Cleofas, 2025; Liu et al., 2025). Resilience also contributes to emotional stability and adaptive functioning by enhancing individuals' ability to regulate emotions, cope with stress, and maintain psychological balance in the presence of adversity (Pederson et al., 2025; Mangoulia et al., 2024).

The interaction between mindfulness, resilience, and mental health is particularly important in understanding depression among individuals with chronic illnesses. These psychological constructs influence emotional regulation, cognitive processing, and stress adaptation, which are central mechanisms underlying depressive symptoms. Mindfulness enhances individuals' awareness and acceptance of emotional experiences, thereby reducing maladaptive cognitive patterns such as rumination and self-criticism, which are strongly associated with depression (Heo & Jang, 2025; Wang & Chen, 2025). Similarly, resilience strengthens individuals' capacity to cope with stress and adversity, reducing emotional vulnerability and enhancing psychological stability (Liu et al., 2025; Yan et al., 2025). Mental health, as a broader construct, reflects the overall balance between psychological well-being and distress, influencing individuals' susceptibility to depression and their capacity to maintain emotional equilibrium (Cleofas, 2025; Mangoulia et al., 2024).

Empirical studies have consistently demonstrated the effectiveness of mindfulness-based interventions in reducing

depressive symptoms and improving emotional functioning. Randomized clinical trials have shown that mindfulness-based cognitive therapy significantly reduces depression, anxiety, and stress while enhancing cognitive flexibility and emotional regulation (Acikgoz & Karaca, 2025; Bakhtiari et al., 2025). Similarly, mindfulness-based interventions have been shown to improve emotional regulation strategies and reduce depressive symptoms among adolescents and adults, highlighting their therapeutic effectiveness (Kaiser et al., 2025; Piguet et al., 2025). These findings suggest that mindfulness plays a crucial role in promoting mental health and reducing depression by improving emotional regulation and psychological flexibility.

Resilience has also been identified as a significant predictor of mental health and emotional well-being. Studies have shown that resilience is negatively associated with depression and positively associated with psychological well-being, suggesting that resilience serves as a protective psychological factor against emotional distress (Yan et al., 2024; Yan et al., 2025). Research examining emotional resilience networks has demonstrated that resilience plays a central role in reducing depressive symptoms and enhancing psychological functioning (Liu et al., 2025). Furthermore, resilience contributes to psychological well-being by promoting adaptive coping strategies, emotional regulation, and positive psychological functioning (Cleofas, 2025).

Despite the growing body of research on depression, mindfulness, resilience, and mental health, relatively limited attention has been given to examining the simultaneous role of these psychological factors in predicting depression among individuals with diabetes. Diabetes presents unique psychological challenges due to its chronic nature, ongoing treatment demands, and associated physiological and psychological stressors. Individuals with diabetes often experience increased psychological distress, emotional dysregulation, and reduced psychological well-being, which may contribute to the development and maintenance of depression. Understanding the role of mental health, mindfulness, and resilience in predicting depression among diabetic patients is essential for developing effective psychological interventions aimed at improving mental health outcomes and enhancing quality of life in this population.

Given the significant psychological burden associated with diabetes and the established protective roles of mental health, mindfulness, and resilience in reducing depression, it is essential to examine their relationships in diabetic populations. Investigating these psychological factors can

provide valuable insights into the mechanisms underlying depression and inform the development of targeted psychological interventions to improve emotional well-being and mental health outcomes among diabetic patients. Therefore, the aim of the present study was to examine the relationship between mental health, mindfulness, and resilience with the prevalence of depression among diabetic patients in Rasht city.

## 2. Methods and Materials

### 2.1. Study Design and Participants

The present study was conducted using an applied research approach and employed a descriptive correlational design to examine the relationship between mental health, mindfulness, resilience, and depression among diabetic patients. The target population consisted of all individuals diagnosed with diabetes who were referred to hospitals in Rasht city in 2025. According to hospital records, the total population included 476 individuals, both men and women, aged between 30 and 60 years. Diabetes diagnosis was confirmed based on established laboratory criteria, including fasting blood glucose levels equal to or greater than 126 mg/dL. The sample size was determined using Cochran's finite population formula, which resulted in a final sample of 316 participants. Participants were selected using a convenience sampling method, based on their availability and willingness to participate in the study. Inclusion criteria included having a confirmed diagnosis of diabetes, being within the specified age range, and providing informed consent to participate. Participants were assured of the confidentiality of their responses and were informed that their participation was voluntary.

### 2.2. Measures

Beck Depression Inventory (BDI-II; Beck et al., 1996). Depression was assessed using the Beck Depression Inventory-II, developed by Beck, Steer, and Brown in 1996. This self-report instrument consists of 21 items designed to measure the severity of depressive symptoms experienced over the past two weeks. Each item is scored on a four-point Likert scale ranging from 0 to 3, resulting in a total score ranging from 0 to 63, with higher scores indicating greater severity of depression. The BDI-II assesses multiple dimensions of depression, including cognitive, emotional, motivational, and somatic symptoms. The instrument does not include formal subscales but reflects overall depression

severity. The BDI-II has been widely used in clinical and research settings and has demonstrated strong psychometric properties. Previous studies have reported high internal consistency, with Cronbach's alpha coefficients typically exceeding 0.85, as well as strong convergent and construct validity across diverse populations, including medical patients with chronic illnesses such as diabetes.

Mental Health Questionnaire (Besharat, 2009). Mental health was assessed using the Mental Health Questionnaire developed by Besharat in 2009. This instrument is designed to measure overall mental health through two primary subscales: psychological well-being and psychological distress. The questionnaire includes multiple items rated on a Likert-type scale, with response options reflecting the degree to which participants experience each psychological state. Higher scores on the psychological well-being subscale indicate better mental health, whereas higher scores on the psychological distress subscale reflect poorer mental health functioning. The total score reflects the overall mental health status of the individual. This instrument has been validated in Iranian populations and has demonstrated satisfactory reliability, with Cronbach's alpha coefficients reported above 0.80 for the total scale and its subscales. Its construct validity, convergent validity, and factor structure have also been confirmed in previous psychological research.

Connor–Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003). Resilience was measured using the Connor–Davidson Resilience Scale, developed by Connor and Davidson in 2003. This scale consists of 25 items designed to assess an individual's capacity to cope with stress, adversity, and psychological challenges. The instrument includes five subscales: personal competence, tolerance of negative affect, positive acceptance of change, control, and spiritual influences. Each item is rated on a five-point Likert scale ranging from 0 (not true at all) to 4 (true nearly all the time), resulting in a total score range from 0 to 100, with higher scores indicating greater resilience. The CD-RISC has demonstrated excellent psychometric properties, including high internal consistency, with Cronbach's alpha coefficients typically reported above 0.85, and strong test–retest reliability. Its validity has been confirmed in clinical and non-clinical populations, including individuals with chronic medical conditions, and it has been widely used in resilience research globally.

Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006). Mindfulness was assessed using the Five Facet Mindfulness Questionnaire, developed by Baer and

colleagues in 2006. This instrument consists of 39 items designed to measure five core components of mindfulness: observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience. Participants respond to each item using a five-point Likert scale ranging from 1 (never or very rarely true) to 5 (very often or always true). Higher scores indicate greater levels of mindfulness. Each subscale reflects a distinct dimension of mindfulness, and the total score represents overall mindfulness ability. The FFMQ has demonstrated strong psychometric properties in previous studies, including high internal consistency, with Cronbach's alpha values typically exceeding 0.80 for the total scale and its subscales. The validity of the instrument, including construct validity, convergent validity, and factorial validity, has been confirmed in both clinical and non-clinical populations.

### 2.3. Data Analysis

Data were collected through the administration of the aforementioned self-report questionnaires and were analyzed using SPSS software version 24. Descriptive statistics, including means and standard deviations, were calculated to summarize the characteristics of the research variables. Prior to inferential analysis, assumptions of normality and multicollinearity were examined using appropriate statistical tests. Pearson correlation analysis was

conducted to examine the relationships between mental health, mindfulness, resilience, and depression. Multiple regression analysis was used to determine the predictive role and relative contribution of mental health, mindfulness, and resilience in explaining variance in depression among diabetic patients. Statistical significance was evaluated at the 0.05 level.

### 3. Findings and Results

In this study, among the 317 participants, 32 individuals were aged between 30 and 40 years (10.13%), 95 individuals were between 41 and 50 years (30.06%), and 189 individuals were between 51 and 60 years (59.81%).

In terms of educational level, 194 participants had an associate degree or lower (61.39%), 108 participants held a bachelor's degree (34.18%), and 14 participants had a master's degree (4.43%).

Regarding disease duration, 46 participants had been diagnosed for less than 5 years (14.56%), 95 participants for 6 to 10 years (30.06%), 123 participants for 11 to 15 years (38.92%), and 52 participants had more than 16 years of disease history (16.46%).

Table 1 presents the descriptive statistics of the research variables, including their means and standard deviations, in order to identify participants' response patterns to the questionnaire items corresponding to each research variable.

**Table 1**

*Descriptive Statistics of the Research Variables*

Variable	Components	N	Mean	Maximum	Minimum	Standard Deviation
Mental Health	Psychological Well-Being	316	41.47	62	18	5.83
	Psychological Distress	316	39.82	58	16	4.39
Mindfulness	Observation	316	24.83	36	14	3.63
	Description	316	22.27	34	12	3.12
	Acting with Awareness	316	25.18	37	15	3.75
	Non-Judging	316	21.29	32	11	3.87
	Non-Reactivity	316	23.65	33	13	3.14
Resilience	Personal Competence	316	15.16	22	8	2.15
	Tolerance of Negative Affect	316	14.93	20	6	2.27
	Positive Acceptance of Change	316	15.38	23	7	2.46
	Control	316	14.98	21	9	2.18
Depression	Spiritual Influences	316	13.27	19	10	2.07
	—	316	31.42	57	6	4.74

According to Table 1, the highest mean score (41.47) was related to the psychological well-being component of mental health, and the highest standard deviation (5.83) was also

observed in the psychological well-being component of mental health.

**Table 2**

*Normality Test of the Research Variables*

Variable	Components	Kolmogorov–Smirnov Statistic	Significance Level	Result
Mental Health	Psychological Well-Being	0.038	0.157	Normal
	Psychological Distress	0.049	0.164	Normal
Mindfulness	Observation	0.068	0.139	Normal
	Description	0.073	0.183	Normal
	Acting with Awareness	0.058	0.205	Normal
	Non-Judging	0.049	0.188	Normal
	Non-Reactivity	0.070	0.179	Normal
Resilience	Personal Competence	0.064	0.194	Normal
	Tolerance of Negative Affect	0.068	0.211	Normal
	Positive Acceptance of Change	0.075	0.202	Normal
	Control	0.069	0.185	Normal
	Spiritual Influences	0.079	0.192	Normal
Depression	—	0.073	0.200	Normal

Table 2 presents the results of the normality test for the research variables. According to Table 2, all research variables were normally distributed, as the significance level for all variables was greater than 0.05. Therefore, the

research variables followed a normal distribution, and Pearson’s correlation test was used to analyze the research hypotheses.

**Table 3**

*Multicollinearity Diagnostics of Predictor Variables*

Variable	Components	Tolerance	VIF	Eigenvalue	Condition Index
Mental Health	Psychological Well-Being	0.286	2.41	0.01	10.7
	Psychological Distress	0.692	1.36	0.05	11.4
Mindfulness	Observation	0.634	1.62	0.05	11.9
	Description	0.527	1.52	0.01	12.5
	Acting with Awareness	0.745	1.93	0.01	13.2
	Non-Judging	0.821	1.22	0.05	9.5
	Non-Reactivity	0.616	1.62	0.05	7.44
Resilience	Personal Competence	0.527	1.37	0.01	11.3
	Tolerance of Negative Affect	0.592	1.49	0.01	12.5
	Positive Acceptance of Change	0.625	1.53	0.01	11.6
	Control	0.589	1.25	0.01	9.6
	Spiritual Influences	0.566	1.81	0.05	13.2
Depression	—	0.717	2.94	0.05	9.8

Table 3 presents the tolerance coefficients and variance inflation factors (VIF). Since the tolerance values for all variables were within an acceptable range, the data were considered suitable, and no significant problems were observed in applying regression analysis. The variance inflation factor (VIF), which is the reciprocal of tolerance, indicates that lower VIF values are associated with reduced variance in regression coefficients and improved predictive stability of the regression model.

Eigenvalues close to zero indicate high internal correlations among predictor variables, suggesting that small

changes in the data may lead to large changes in the estimated regression coefficients. Condition index values greater than 1 indicate the possibility of multicollinearity among predictor variables, whereas values greater than 30 indicate a serious multicollinearity problem that may compromise the validity of the regression model. Since the condition index values for all variables were below 15, the likelihood of multicollinearity was considered low, and regression analysis was deemed appropriate for hypothesis testing.

**Table 4**

*Summary of Regression ANOVA Results for the Relationships Between Mental Health, Mindfulness, Resilience, and Depression in Diabetic Patients*

Hypothesis	Predictor Variable	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.	R	Adjusted R <sup>2</sup>
Hypothesis 1	Mental Health	Regression	16285.23	2	8142.62	17.36	0.002	0.295	0.137
		Residual	37418.52	313	119.55	—	—	—	—
		Total	53703.75	315	—	—	—	—	—
Hypothesis 2	Mindfulness	Regression	13478.64	5	2695.73	14.36	0.001	0.375	0.214
		Residual	35237.58	310	113.67	—	—	—	—
		Total	48716.22	315	—	—	—	—	—
Hypothesis 3	Resilience	Regression	13468.27	4	3367.07	15.63	0.001	0.465	0.348
		Residual	44529.29	311	143.18	—	—	—	—
		Total	57997.56	315	—	—	—	—	—

Table 4 presents the results of the regression analysis of variance (ANOVA) examining the relationships between mental health, mindfulness, and resilience with depression among diabetic patients. For the first hypothesis, mental health showed a statistically significant relationship with depression,  $F(2, 313) = 17.36$ ,  $p = 0.002$ , with a correlation coefficient of  $R = 0.295$  and an adjusted coefficient of determination of 0.137, indicating that mental health explained approximately 13.7% of the variance in depression among diabetic patients. For the second hypothesis, mindfulness demonstrated a statistically significant relationship with depression,  $F(5, 310) = 14.36$ ,

$p = 0.001$ , with  $R = 0.375$  and an adjusted  $R^2$  of 0.214, indicating that mindfulness explained approximately 21.4% of the variance in depression. For the third hypothesis, resilience showed a statistically significant relationship with depression,  $F(4, 311) = 15.63$ ,  $p = 0.001$ , with a correlation coefficient of  $R = 0.465$  and an adjusted  $R^2$  of 0.348, indicating that resilience explained approximately 34.8% of the variance in depression. Overall, the results indicate that mental health, mindfulness, and resilience are significant predictors of depression in diabetic patients, with resilience demonstrating the strongest explanatory power among the examined psychological variables.

**Table 5**

*Combined Regression Coefficients for Mental Health, Mindfulness, and Resilience Components in Predicting Depression Among Diabetic Patients*

Predictor Domain	Predictor Variable	B (Unstandardized)	SE	$\beta$ (Standardized)	t	Sig.
Mental Health	Constant	72.19	5.256	—	0.038	0.007
	Psychological Well-Being	-0.523	0.071	-0.484	-7.389	0.001
	Psychological Distress	-0.242	0.087	-0.188	-2.794	0.006
Mindfulness	Constant	96.38	8.47	—	15.23	0.001
	Observation	-0.29	0.08	-0.17	-2.24	0.001
	Description	-0.22	0.07	-0.13	-1.62	0.001
	Acting with Awareness	-0.25	0.09	-0.15	-1.58	0.001
	Non-Judging	-0.27	0.10	-0.18	-1.49	0.001
	Non-Reactivity	-0.31	0.07	-0.12	-2.01	0.001
Resilience	Constant	103.59	14.28	—	16.36	0.001
	Personal Competence	-0.21	0.09	-0.18	-2.37	0.001
	Tolerance of Negative Affect	-0.17	0.06	-0.13	-1.64	0.001
	Positive Acceptance of Change	-0.18	0.11	-0.18	-2.71	0.001
	Control	-0.20	0.05	-0.15	-1.42	0.001
	Spiritual Influences	-0.16	0.07	-0.12	-1.95	0.001

Table 5 presents the regression coefficients examining the unique contributions of mental health, mindfulness, and resilience components in predicting depression among

diabetic patients. Within the mental health domain, psychological well-being emerged as a strong and significant negative predictor of depression ( $\beta = -0.484$ ,  $t =$

-7.389,  $p = 0.001$ ), indicating that higher levels of psychological well-being were associated with lower levels of depression. Psychological distress also significantly negatively predicted depression ( $\beta = -0.188$ ,  $t = -2.794$ ,  $p = 0.006$ ), although its predictive strength was weaker compared to psychological well-being. Regarding mindfulness, all five components significantly negatively predicted depression, including observation ( $\beta = -0.17$ ,  $p = 0.001$ ), description ( $\beta = -0.13$ ,  $p = 0.001$ ), acting with awareness ( $\beta = -0.15$ ,  $p = 0.001$ ), non-judging ( $\beta = -0.18$ ,  $p = 0.001$ ), and non-reactivity ( $\beta = -0.12$ ,  $p = 0.001$ ), indicating that greater mindfulness skills were associated with lower depressive symptoms. Among resilience components, personal competence ( $\beta = -0.18$ ,  $p = 0.001$ ), tolerance of negative affect ( $\beta = -0.13$ ,  $p = 0.001$ ), positive acceptance of change ( $\beta = -0.18$ ,  $p = 0.001$ ), control ( $\beta = -0.15$ ,  $p = 0.001$ ), and spiritual influences ( $\beta = -0.12$ ,  $p = 0.001$ ) all significantly negatively predicted depression. Overall, these findings indicate that higher levels of psychological well-being, mindfulness skills, and resilience capacities are associated with significantly lower levels of depression among diabetic patients, with psychological well-being demonstrating the strongest predictive effect among the examined variables.

#### 4. Discussion and Conclusion

The present study aimed to examine the relationship between mental health, mindfulness, and resilience with depression among diabetic patients, and the findings provided substantial empirical support for the proposed relationships. The results demonstrated that mental health was significantly and negatively associated with depression among diabetic patients. Specifically, psychological well-being emerged as a strong negative predictor of depression, while psychological distress was also significantly associated with depressive symptoms. These findings indicate that individuals with higher levels of psychological well-being experience fewer depressive symptoms, whereas individuals experiencing greater psychological distress are more vulnerable to depression. This result is consistent with contemporary psychological frameworks that conceptualize mental health not merely as the absence of mental illness but as a dynamic balance between positive psychological functioning and emotional distress. Mental health plays a crucial role in emotional regulation, cognitive stability, and adaptive coping, all of which are essential in preventing

depressive symptoms, particularly among individuals coping with chronic illnesses such as diabetes.

These findings are consistent with previous empirical studies demonstrating that mental health is strongly associated with depression and emotional well-being. Research has shown that individuals with lower mental well-being are more vulnerable to depressive symptoms due to reduced emotional regulation capacity and increased psychological vulnerability (Cleofas, 2025). Similarly, mental health disturbances, including psychological distress and emotional instability, have been identified as key predictors of depression across various populations, including individuals experiencing chronic stress or medical conditions (Moya-Salazar, 2025). The association between poor mental health and increased depression risk has also been supported by research demonstrating that psychological distress contributes to emotional dysregulation, cognitive dysfunction, and increased vulnerability to depression (Ortlund et al., 2025). These findings suggest that mental health serves as a foundational psychological construct influencing emotional stability and psychological functioning, and its role is particularly significant in individuals managing chronic medical conditions such as diabetes.

The present study also found that mindfulness was significantly and negatively associated with depression among diabetic patients, and all mindfulness components—including observation, description, acting with awareness, non-judging, and non-reactivity—were significant predictors of depression. This finding indicates that individuals with higher levels of mindfulness experience lower levels of depression, which may be explained by mindfulness's role in promoting present-moment awareness, emotional regulation, and cognitive flexibility. Mindfulness enables individuals to observe their thoughts and emotions without judgment, reducing maladaptive cognitive patterns such as rumination and self-criticism, which are strongly associated with depression. This cognitive and emotional regulatory function is particularly important for individuals with diabetes, who may experience chronic stress related to disease management, lifestyle restrictions, and health-related concerns.

The findings of the present study are consistent with extensive research demonstrating the protective role of mindfulness against depression. Previous studies have shown that mindfulness significantly reduces depressive symptoms by improving emotional regulation and reducing cognitive reactivity to stress (Wang & Chen, 2025).

Mindfulness has also been identified as a key moderating factor in the relationship between stress and depression, helping individuals manage psychological stress more effectively and reducing vulnerability to depressive symptoms (Heo & Jang, 2025). Furthermore, randomized clinical trials have demonstrated that mindfulness-based cognitive therapy significantly reduces depression, anxiety, and emotional distress while improving psychological functioning and cognitive flexibility (Acikgoz & Karaca, 2025). Similarly, mindfulness-based interventions have been shown to reduce depressive symptoms and improve emotional regulation in both clinical and non-clinical populations, including adolescents and individuals experiencing psychological distress (Bakhtiari et al., 2025; Piguet et al., 2025). Meta-analytic evidence has further confirmed the effectiveness of mindfulness-based interventions in improving mental health outcomes and reducing depression, particularly among individuals with chronic illnesses (Kaiser et al., 2025; Štánerová et al., 2025). These findings provide strong empirical support for the role of mindfulness as a protective psychological factor that enhances emotional regulation and reduces depressive symptoms.

Another important finding of the present study was that resilience was significantly and negatively associated with depression among diabetic patients. All resilience components, including personal competence, tolerance of negative affect, positive acceptance of change, control, and spiritual influences, were significant predictors of depression. This finding suggests that individuals with higher resilience are better able to cope with the psychological challenges associated with diabetes and are less likely to experience depressive symptoms. Resilience enhances individuals' ability to adapt to stress, maintain emotional stability, and recover from psychological adversity, thereby reducing vulnerability to depression. Resilient individuals are more likely to employ adaptive coping strategies, maintain a positive outlook, and regulate their emotional responses effectively, which contributes to psychological stability and emotional well-being.

These findings are supported by previous research demonstrating that resilience plays a critical role in protecting individuals against depression. Studies have shown that resilience is negatively associated with depression and positively associated with psychological well-being, indicating that resilient individuals experience fewer depressive symptoms and greater emotional stability (Yan et al., 2024; Yan et al., 2025). Network analysis

research has also demonstrated that resilience is a central factor influencing emotional stability and reducing depressive symptoms (Liu et al., 2025). Similarly, resilience has been identified as a significant predictor of mental well-being, with higher levels of resilience associated with lower levels of depression and improved psychological functioning (Cleofas, 2025). Research conducted among individuals experiencing academic and psychological stress has also demonstrated that resilience contributes significantly to emotional stability, psychological well-being, and reduced depressive symptoms (Mangoulia et al., 2024). These findings highlight the importance of resilience as a psychological resource that enables individuals to cope effectively with stress and maintain mental health.

The regression analysis results further demonstrated that resilience had the strongest predictive power among the examined variables, followed by mindfulness and mental health. This finding suggests that resilience may play a particularly important role in protecting diabetic patients against depression. This result is consistent with theoretical models of psychological adaptation, which emphasize resilience as a core psychological mechanism enabling individuals to cope effectively with chronic stress and adversity. Individuals with higher resilience are better equipped to manage the psychological challenges associated with chronic illness, maintain emotional stability, and prevent the development of depressive symptoms.

Overall, the findings of the present study support the theoretical and empirical literature emphasizing the importance of psychological factors in influencing depression. Mental health, mindfulness, and resilience all play significant roles in protecting individuals against depression by enhancing emotional regulation, cognitive flexibility, and adaptive coping. These psychological resources enable individuals to manage stress more effectively, regulate emotional responses, and maintain psychological stability in the face of adversity. These findings are particularly important for diabetic patients, who face ongoing psychological and physiological challenges associated with disease management. The identification of mindfulness and resilience as significant predictors of depression highlights the importance of incorporating psychological interventions aimed at enhancing these protective factors in diabetic populations. Such interventions may help improve psychological well-being, reduce depressive symptoms, and enhance overall quality of life among individuals with diabetes.

Despite the valuable findings of the present study, several limitations should be considered when interpreting the results. First, the study employed a cross-sectional correlational design, which limits the ability to establish causal relationships between mental health, mindfulness, resilience, and depression. Although significant associations were identified, it cannot be concluded that these psychological variables directly cause changes in depression. Second, the use of self-report questionnaires may have introduced response bias, including social desirability bias and subjective interpretation of questionnaire items. Third, the study sample consisted exclusively of diabetic patients from Rasht city, which may limit the generalizability of the findings to other populations, geographic regions, or individuals with different medical conditions. Fourth, the study did not control for potential confounding variables such as disease severity, duration of illness, socioeconomic status, or comorbid psychological conditions, which may influence depression levels. Finally, the convenience sampling method may have limited the representativeness of the sample.

Future research should employ longitudinal and experimental designs to examine causal relationships between mental health, mindfulness, resilience, and depression. Longitudinal studies would allow researchers to examine how changes in psychological factors influence depression over time. Future studies should also include larger and more diverse samples from different geographic regions and medical populations to enhance generalizability. Additionally, future research should examine the mediating and moderating mechanisms underlying the relationship between psychological factors and depression, such as emotional regulation, coping strategies, and cognitive processes. Investigating the effectiveness of psychological interventions aimed at enhancing mindfulness and resilience in reducing depression among diabetic patients would also provide valuable insights. Furthermore, integrating physiological and psychological measures could provide a more comprehensive understanding of the interaction between psychological and biological factors in depression.

The findings of this study have important practical implications for psychological and medical interventions aimed at reducing depression among diabetic patients. Healthcare providers should consider incorporating psychological assessments into routine diabetes care to identify individuals at risk of depression. Psychological interventions designed to enhance mindfulness and resilience may be particularly beneficial in reducing

depressive symptoms and improving emotional well-being. Mindfulness-based programs can help patients develop emotional awareness, reduce stress, and improve psychological functioning. Similarly, resilience training programs can help patients develop adaptive coping strategies, enhance emotional stability, and improve their ability to manage the psychological challenges associated with diabetes. Integrating psychological support services into diabetes care programs may help improve mental health outcomes and overall quality of life among diabetic patients.

### Authors' Contributions

All authors significantly contributed to this study.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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### Declaration of Interest

The authors report no conflict of interest.

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### Ethical Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the study and participated in the research with informed consent.

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