

The Relationship of Dispositional Mindfulness, Cognitive Empathy, and Affective Empathy with Depressive Symptoms

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ABSTRACT

Objective: This study aimed to investigate the relationships of dispositional mindfulness, cognitive empathy, and affective empathy with depressive symptoms among adult women and men residing in Tabriz, Iran.

Methods and Materials: This basic research employed a descriptive-correlational design. The statistical population consisted of adults aged 18–45 years residing in Tabriz who reported at least one depressive symptom. A total of 350 participants were recruited through convenience sampling from healthcare centers, psychological clinics, universities, and online announcements. Data were collected using the Five Facet Mindfulness Questionnaire developed by Baer et al., the Beck Depression Inventory, a Cognitive Empathy Questionnaire, and the Emotional Empathy Scale developed by Mehrabian and Epstein. After participants received information about the study and provided informed consent, the questionnaires were administered either in person or online. Data were analyzed using SPSS software, with correlation analysis employed to examine the relationships among the study variables.

Findings: Inferential analyses indicated that dispositional mindfulness was positively and significantly associated with both cognitive empathy and affective empathy, indicating that higher levels of mindfulness were accompanied by higher levels of both dimensions of empathy. However, the relationships of dispositional mindfulness, cognitive empathy, and affective empathy with depressive symptoms were not statistically significant. Thus, although mindfulness demonstrated significant associations with the cognitive and emotional dimensions of empathy, none of the three principal psychological variables showed a significant direct relationship with depressive symptoms in the studied sample.

Conclusion: Dispositional mindfulness appears to be meaningfully associated with individuals' empathic capacities, particularly both cognitive understanding and affective responsiveness to others. Nevertheless, dispositional mindfulness and the two dimensions of empathy were not significantly related to depressive symptoms in this sample.

Keywords: Dispositional Mindfulness; Cognitive Empathy; Affective Empathy; Depressive Symptoms; Correlational Study

1. Introduction

Depressive symptoms constitute one of the most prevalent and consequential forms of psychological distress across adulthood, affecting mood, cognition, motivation, interpersonal functioning, and daily performance. Although depressive symptomatology can vary considerably in severity and clinical significance, even subclinical symptoms may interfere with occupational functioning, academic engagement, social relationships, and overall quality of life. Contemporary psychological research increasingly conceptualizes depressive symptoms not only as the product of isolated affective disturbances, but also as the outcome of interacting cognitive, emotional, attentional, and interpersonal processes. Within this framework, dispositional mindfulness has attracted substantial attention because it reflects a relatively stable tendency to attend to present-moment experiences with awareness, openness, and reduced automatic reactivity. Individuals with higher dispositional mindfulness are generally thought to be less vulnerable to maladaptive repetitive thinking, cognitive fusion, emotional overidentification, and automatic behavioral responding. Recent empirical evidence supports the relevance of mindfulness to psychological adjustment across diverse populations. Dispositional mindfulness has been associated with lower psychological distress in adolescents and young adults, and longitudinal findings suggest that mindfulness may prospectively relate to reduced distress over time (Chong & Xu, 2026; Zhu et al., 2025). Similar findings have emerged in more specialized contexts, including university populations, pregnant individuals, sexual minority groups, and individuals with psychopathological traits, suggesting that mindfulness may function as a broad protective psychological resource rather than as a context-specific phenomenon (Donofry et al., 2026; Kingery et al., 2025; Sattler, 2025; Zappullo et al., 2026). At the same time, mindfulness appears to operate through multiple mechanisms rather than exerting a simple uniform effect on mental health. Its relationships with psychological flexibility, rumination, cognitive distortions, self-compassion, emotional awareness, and everyday behavioral regulation have therefore become important areas of investigation (Aldbyani et al., 2025; Chasson, 2026; Ecker et al., 2025; Wu et al., 2025). This multidimensional perspective is especially relevant to depression, because depressive symptoms themselves emerge from complex interactions among self-focused cognition, emotional

dysregulation, interpersonal sensitivity, and reduced adaptive engagement with the environment.

Dispositional mindfulness may be particularly relevant to depressive symptoms because many established cognitive and emotional risk factors for depression involve failures of attentional regulation and maladaptive reactions to internal experience. Rumination, for example, perpetuates negative affect by repeatedly directing attention toward distress, perceived failure, and self-referential negative content. Evidence indicates that dispositional mindfulness can weaken the relationship between rumination and depressive symptoms, suggesting that mindful awareness may buffer the impact of repetitive negative thinking (Amanambu et al., 2025). Similarly, cognitive distortions have been shown to mediate the relationship between dispositional mindfulness and psychological distress, implying that mindful individuals may be less likely to engage in rigid, biased, or catastrophizing interpretations of experience (Kingery et al., 2025). Research among university students has further demonstrated dual pathways by which mindfulness may be linked to lower depression, particularly through greater self-compassion and reduced rumination (Wu et al., 2025). Experimental and intervention-based research provides convergent evidence. Mindfulness-based cognitive therapy has demonstrated efficacy in regulating cognition and emotion among individuals with depression, supporting the premise that mindfulness-related processes can contribute to changes in depressive symptomatology (Nandarathana et al., 2025). Mindfulness-based compassionate approaches have also shown that reductions in experiential avoidance and changes in positive affect may contribute to therapeutic responses in recurrent depression (Scheepbouwer et al., 2025). In nonclinical populations, mindfulness programs have been associated with improvements in depression, anxiety, stress, sleep quality, and life satisfaction, suggesting that mindfulness may have preventive as well as therapeutic relevance (Alvarado-García et al., 2025). Broader integrative work likewise emphasizes that mindfulness should be understood as embodied and contextually embedded, involving interactions among attentional awareness, emotional regulation, compassion, and social functioning rather than merely as detached attentional control (Khouri et al., 2025). These findings collectively indicate that dispositional mindfulness may be meaningfully associated with depressive symptoms, but they also suggest that the magnitude and direction of this association may depend on related interpersonal and emotional processes.

Among such interpersonal processes, empathy occupies an especially important position because it connects internal emotional regulation with responsiveness to the experiences of others. Empathy is typically conceptualized as a multidimensional construct comprising cognitive and affective components. Cognitive empathy refers to the capacity to understand another person's perspective, thoughts, intentions, or emotional state without necessarily sharing that state emotionally. Affective empathy, by contrast, involves emotional resonance with or responsiveness to another individual's feelings. These dimensions are related but not interchangeable, and they may have distinct implications for psychological health. Cognitive empathy may support adaptive social understanding, perspective taking, and interpersonal problem solving, whereas affective empathy may facilitate emotional connectedness and prosocial responsiveness. However, high affective responsiveness may also become burdensome when it is poorly regulated, particularly in individuals vulnerable to emotional overidentification or empathic distress. Recent findings support the importance of distinguishing these dimensions when examining depression. Cognitive and affective empathy have been investigated as mediating psychological processes in relation to anxious and depressive symptoms among college students, demonstrating that empathy may contribute to the pathways through which broader identity and interpersonal processes influence emotional distress (Peifer et al., 2026). Moreover, research on compassion and empathy suggests that empathic sensitivity can be psychologically protective under some conditions yet emotionally overwhelming under others, especially when empathic engagement is not accompanied by adaptive self-regulation or self-compassion (Holas & Roczon, 2026). This distinction is theoretically important because depression is often characterized by heightened sensitivity to negative interpersonal information, altered social cognition, withdrawal, and reduced access to rewarding social experiences. Accordingly, empathy may function either as a resource or as a vulnerability factor depending on whether it takes a regulated, perspective-based form or an emotionally overinvolved form.

The relationship between mindfulness and empathy is also theoretically plausible and increasingly supported empirically. Mindfulness involves sustained attention to internal and external experience, reduced automatic judgment, and greater awareness of emotional cues, all of which may improve the recognition and understanding of others' mental and affective states. Mindfulness may

therefore facilitate cognitive empathy by enhancing attentional stability and perspective taking, while also supporting affective empathy by increasing openness to emotional experience without immediate defensive avoidance. Research in educational and clinical-adjacent settings provides evidence for this association. A mindfulness-based class among nursing students was found to influence mindfulness, emotion regulation, achievement emotions, and empathy, suggesting that mindfulness practice may contribute to more adaptive empathic functioning in contexts where emotional awareness is professionally important (Lee, 2025). Mindfulness and compassion training delivered to parent-child dyads likewise points to the interpersonal consequences of contemplative practices, including enhanced emotional attunement and relational functioning (Jaiswal et al., 2025). Studies of caregivers have similarly shown that mindfulness-based stress reduction can improve self-compassion and parent-child relationship quality, underscoring the relevance of mindful awareness to interpersonal sensitivity and relational behavior (Rakhshani et al., 2025). At the family level, parents' dispositional mindfulness has been linked to child behavioral outcomes through the child's own mindfulness, suggesting that mindfulness may have interpersonal and relational effects that extend beyond the individual (Levantini et al., 2025). These findings are consistent with the view that mindfulness can foster a less reactive and more receptive mode of interpersonal engagement. Yet mindfulness and empathy should not be assumed to be uniformly beneficial or linearly related. Empathic responsiveness may depend on whether emotional resonance is balanced by regulatory capacities, and mindfulness itself may manifest differently depending on individual differences in emotional awareness, alexithymia, personality traits, or psychopathological vulnerability (Ecker et al., 2025). Therefore, examining cognitive and affective empathy separately is essential when investigating how mindfulness relates to emotional distress.

A further reason for examining mindfulness, empathy, and depressive symptoms together is that these constructs may intersect through common processes of emotion regulation. Depression is frequently accompanied by difficulty identifying, tolerating, and regulating negative emotional states, whereas mindfulness is associated with greater nonreactivity and more flexible responding to such states. Empathy also depends on the ability to process emotional information without either disengaging from it or becoming overwhelmed by it. This shared regulatory basis

creates the possibility that dispositional mindfulness may be positively associated with both cognitive and affective empathy while simultaneously showing a negative association with depressive symptoms. However, the empirical literature does not justify assuming that all these associations will necessarily be significant. For example, research suggests that depressive symptoms can mediate associations between mindfulness and health-related behaviors in some contexts, implying that mindfulness may be related to depression indirectly rather than directly (Donofry et al., 2026). Likewise, the role of psychological flexibility in the association between mindfulness and postpartum depressive symptoms suggests that intermediate psychological mechanisms may account for substantial portions of the mindfulness-depression relationship (Chasson, 2026). Experimental work using brain stimulation has further demonstrated that dispositional mindfulness itself may be modifiable and linked with psychopathology-related outcomes, reinforcing the idea that mindfulness is a meaningful psychological construct but not necessarily a simple trait marker with fixed effects (Rayani et al., 2025). Broader behavioral evidence also shows that mindfulness is associated with improved digital life balance and lower problematic smartphone use, indicating that its benefits may be expressed through self-regulatory pathways extending well beyond mood symptoms (Aldbyani et al., 2025). Similarly, mindfulness-related practices such as yoga and meditation have been associated with reductions in depression, anxiety, and stress, although the mechanisms likely involve interacting bodily, cognitive, and emotional processes (Barua, 2025). Taken together, these findings indicate that the relationship between mindfulness and depression is robust in theoretical importance but heterogeneous in empirical expression, which makes direct examination in distinct populations necessary.

Another important issue concerns the protective versus potentially costly aspects of empathy in relation to depressive symptoms. Cognitive empathy is often assumed to support adaptive social functioning because it allows individuals to infer others' perspectives without necessarily absorbing their emotional states. Affective empathy, however, may be more strongly tied to emotional contagion, vicarious distress, and interpersonal sensitivity. This distinction becomes particularly salient in depression, where individuals may display heightened negative emotional processing alongside social withdrawal and self-focused attention. Compassion research suggests that emotionally attuned responding can protect against distress when it is

accompanied by adaptive self-related processing, but can become overwhelming when individuals are highly sensitive to others' suffering without sufficient emotional boundaries (Holas & Roczon, 2026). This may help explain why affective empathy does not always show the same relationship with psychological symptoms as cognitive empathy. In addition, the benefits of mindfulness may partly arise from altering how empathic experiences are processed. By increasing awareness while reducing judgment and reactivity, mindfulness may allow individuals to remain emotionally available to others without becoming excessively absorbed in their distress. The embodied and embedded mindfulness framework likewise emphasizes that mindfulness operates through interactions between body, environment, affect, and social context, providing a conceptual basis for expecting associations with empathy as well as depression (Khoury et al., 2025). Research on self-compassion, experiential avoidance, and positive affect in recurrent depression further indicates that the quality of emotional engagement may be as important as its intensity (Scheepbouwer et al., 2025). Thus, studying cognitive empathy and affective empathy as separate constructs may clarify whether one dimension is more closely associated with depressive symptoms and whether dispositional mindfulness is differentially related to each.

Despite the expanding literature on mindfulness and mental health, several limitations remain. First, much of the evidence has focused on intervention effects, specific clinical groups, adolescents, university students, caregivers, pregnant individuals, or minority populations rather than on broader adult community samples (Alvarado-García et al., 2025; Rakhshani et al., 2025; Rayani et al., 2025; Sattler, 2025). Second, many studies examine mindfulness in relation to depression without simultaneously incorporating both cognitive and affective empathy, even though empathy may represent an important interpersonal correlate of mindful awareness and emotional adjustment. Third, emerging evidence suggests that mindfulness is related to diverse dimensions of functioning, including psychological distress, emotional awareness, self-compassion, behavioral regulation, and relational quality, yet the pattern of associations may vary across cultural and social contexts (Levantini et al., 2025; Zappullo et al., 2026). Cross-sectional studies in different populations are therefore still valuable for identifying whether theoretically expected relationships are replicated or whether culturally specific patterns emerge. In addition, research on negative life events suggests that dispositional mindfulness and self-compassion

may buffer the impact of adversity on depressive symptoms, further emphasizing that mindfulness should be studied within broader psychosocial systems rather than as an isolated protective trait (Arentz, 2025). At the same time, findings showing that mindfulness can reduce psychological vulnerability through multiple indirect pathways reinforce the need to examine its associations with interpersonal capacities such as empathy alongside depressive symptoms (Amanambu et al., 2025; Wu et al., 2025). Accordingly, research that jointly evaluates dispositional mindfulness, cognitive empathy, affective empathy, and depressive symptoms can contribute to a more integrated account of how attentional, emotional, and interpersonal processes are related within adult psychological functioning.

The present study therefore addresses a gap in the literature by examining these variables concurrently among adult women and men residing in Tabriz. This context is important because psychological constructs such as mindfulness and empathy may be shaped by sociocultural norms concerning emotional expression, interpersonal closeness, gender roles, and help-seeking, while depressive symptoms may also be experienced and communicated differently across cultural settings. Studying these constructs in a community-based adult sample can therefore extend findings derived from predominantly student, clinical, and Western samples. In addition, examining direct associations among the variables can provide a necessary empirical foundation for future work investigating mediation, moderation, and longitudinal mechanisms. Given evidence that mindfulness is associated with lower distress, improved emotion regulation, greater self-compassion, and enhanced interpersonal functioning, and given the distinct but potentially complementary roles of cognitive and affective empathy, it is reasonable to expect meaningful relationships among these constructs (Lee, 2025; Nandarathana et al., 2025; Peifer et al., 2026). However, because prior research also demonstrates heterogeneity in the strength and mechanisms of these associations, empirical assessment in the present population remains warranted (Chong & Xu, 2026; Donofry et al., 2026; Zhu et al., 2025). Accordingly, the present study aimed to investigate the relationships of dispositional mindfulness, cognitive empathy, and affective empathy with depressive symptoms among women and men aged 18–45 years residing in Tabriz.

2. Methods and Materials

2.1. Study Design and Participants

The statistical population of the present study consisted of women and men aged 18–45 years residing in Tabriz who had at least one depressive symptom. The sample size was set at 350 participants. The sample size was determined based on Stevens' recommendation of selecting 15–20 participants for each measured variable, while also taking into account the possibility of participant attrition or incomplete questionnaires. Convenience sampling was employed. Participants were recruited from individuals attending healthcare centers and psychological clinics, university students, and individuals who responded to the online research announcement. Eligibility criteria for participation included being over 18 years of age and experiencing at least one depressive symptom. The presence of a concurrent severe psychological disorder or unwillingness to cooperate was considered an exclusion criterion. Before completion of the questionnaires, the purpose of the study was explained to the participants, and informed consent was obtained.

2.2. Instruments

The Five Facet Mindfulness Questionnaire (FFMQ) was developed by Baer, Smith, Hopkins, Krietemeyer, and Toney in 2006 and consists of 39 items designed to assess an individual's tendency to be mindfully aware in everyday life. The instrument comprises five dimensions: Observing (8 items), Describing (8 items), Acting with Awareness (8 items), Nonjudging of Inner Experience (8 items), and Nonreactivity to Inner Experience (7 items). Items are scored on a 5-point Likert scale ranging from 1 (rarely or never true) to 5 (very often or always true), with higher scores indicating greater dispositional mindfulness. The original developers reported internal consistency coefficients (Cronbach's alpha) ranging from .75 to .91 across the subscales and confirmed the construct validity of the measure through factor analysis (Chung & Xu, 2026). In Iran, the psychometric properties of the scale were examined by Dehghani et al. and Khanjani et al.; confirmatory factor analysis supported the five-factor structure of the questionnaire in Iranian populations, with satisfactory goodness-of-fit indices. Cronbach's alpha coefficients for the dimensions ranged from .76 to .86, while test–retest reliability coefficients ranged from .57 to .84, indicating

satisfactory validity and reliability of the instrument in Iran (Derakhshani et al., 2025).

The Beck Depression Inventory–Second Edition (BDI-II) was developed by Beck, Steer, and Brown in 1996 to assess the severity of depressive symptoms in accordance with diagnostic criteria. It consists of 21 items, each containing four response options. The items assess two broad dimensions: Cognitive–Affective and Somatic–Vegetative symptoms. Each item is scored from 0 to 3, yielding a total score ranging from 0 to 63; higher scores indicate greater severity of depressive symptoms. In the evaluation of the original version by Beck and colleagues, Cronbach’s alpha was reported as .93 in outpatient samples, and one-week test–retest reliability was .93. Factor analytic findings also supported its construct validity (Kingery et al., 2025). In Iran, the psychometric properties of this instrument were examined by Ghassemzadeh, Mojtabai, Karamghadiri, and Ebrahimkhani (2005). Cronbach’s alpha for the Persian version was .87, test–retest reliability was .74, and convergent validity was confirmed through a significant correlation with the Automatic Thoughts Questionnaire–Negative. Its two-factor structure was also supported.

The Cognitive Empathy Questionnaire consists of 26 items designed to assess the cognitive dimension of empathy and an individual’s ability to understand, recognize, and adopt the mental perspective of others. The items are designed to reflect the components of Perspective Taking and Understanding the Cognitive and Emotional States of Others. Responses are scored using a multi-point Likert scale, and after reverse-scoring negatively worded items, higher scores indicate a stronger capacity for cognitive empathy (Chasson, 2026). The original developers and international researchers established the construct validity of the questionnaire through exploratory and confirmatory factor analyses and reported Cronbach’s alpha coefficients ranging from .74 to .81. In Iranian studies, the structural validity of the instrument was supported through factor analysis, and the Cronbach’s alpha coefficient for the total score exceeded .75, indicating satisfactory convergent validity and internal consistency for the Persian version.

The Mehrabian and Epstein Emotional Empathy Scale was developed by Albert Mehrabian and Norman Epstein in 1972, with subsequent revisions, and consists of 33 items designed to assess an individual’s capacity to experience emotional and affective responses congruent with the states of others. The scale includes components such as Emotional Susceptibility, Participatory Empathy, Reactive Empathy, and Emotional Responsiveness to Environmental Experiences. Items are scored on a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree), with reverse-scored items taken into account. Higher total scores indicate a greater degree of emotional involvement and affective responsiveness. Mehrabian and Epstein demonstrated the construct validity of the scale through correlations with prosocial behaviors and reported an internal consistency coefficient of .84. In Iran, the psychometric properties of the scale were evaluated by Zarshghaei, Nouri, and Arizi Samani (2010). Confirmatory factor analysis supported its construct validity, while the internal consistency of the Persian version was confirmed by a Cronbach’s alpha coefficient greater than .75; its test–retest reliability was also supported.

2.3. Data analysis

The study data were analyzed using SPSS. For descriptive statistics, the means and standard deviations of the variables were calculated. To examine the statistical assumptions, distributional normality was assessed using skewness and kurtosis indices, and multicollinearity was examined. At the inferential level, Pearson’s correlation coefficient was used to investigate the associations of dispositional mindfulness, cognitive empathy, and affective empathy with depressive symptoms.

3. Findings and Results

At the beginning of this section, the demographic characteristics of the participants are reported in Table 1.

Table 1

Demographic Characteristics of the Participants (N = 350)

Demographic Variable	Frequency	Percentage	Pearson χ^2	p	t	p
Age	—	—	—	—	1.97	.049
Gender			22.12	.001		
Female	219	62.6				
Male	131	37.4				

Marital Status			390.7	.001
Single	225	64.3		
Married	119	34.0		
Divorced	5	1.4		
Widowed	1	0.3		
Economic Status			368.6	.001
High	31	8.9		
Moderate	286	81.7		
Low	33	9.4		
Educational Level			390.5	.001
Bachelor's degree	289	82.6		
Master's degree	53	15.1		
Doctoral degree	8	2.3		
History of Illness			267.5	.001
Yes	22	6.3		
No	328	93.7		
History of Substance Use			315.0	.001
Yes	9	2.6		
No	341	97.4		
History of Psychiatric Consultation			153.7	.001
Yes	59	16.9		
No	291	83.1		

To examine the descriptive characteristics of the main study variables, the mean, standard deviation, minimum, maximum, skewness, and kurtosis were calculated. The

results of these analyses are summarized in Table 2. The skewness and kurtosis values indicate that the variables were normally distributed.

Table 2

Descriptive Statistics of the Study Variables (N = 350)

Variable	M	SD	Min	Max	Skewness	Kurtosis
Depressive symptoms	18.72	12.15	0	63	0.86	0.99
Dispositional mindfulness	116.31	16.64	71	189	0.32	1.68
Affective empathy	94.30	11.25	50	154	0.20	2.91
Cognitive empathy	81.83	12.23	26	141	-0.04	2.70

The descriptive findings presented in the table demonstrate the distributions of the measures of central tendency and dispersion for the study variables in the examined sample. Examination of the skewness and kurtosis indices further indicated that the distributions of scores for

depressive symptoms, dispositional mindfulness, affective empathy, and cognitive empathy were within acceptable and standard ranges. Therefore, the assumption of normality required for conducting parametric statistical analyses was satisfied.

Table 3

Correlations Among the Study Variables (N = 350)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	1																					
2	.11	1																				
3	-.14	.12	1																			
4	-.09	.24	.19	1																		
5	-.12	.62	.17	.32	1																	
6	-.10	.62	.10	.24	.40	1																
7	.32	.53	.11	.14	-.04	.11	1															
8	.27	.72	.00	.17	.20	.28	.49	1														
9	-.17	.60	.28	.14	.47	.40	.14	.21	1													
10	.09	-.04	.47	-.21	-.15	.08	.01	-.06	.12	1												

[illegible]

The findings from the Pearson correlation matrix presented in Table 3 indicate significant associations among the main study variables and their dimensions. Specifically, dispositional mindfulness was positively and significantly associated with both cognitive empathy and affective empathy, suggesting that stronger mindfulness skills are accompanied by greater empathic capacities. In addition, a significant negative relationship was observed between affective empathy and depressive symptoms. With respect to cognitive empathy and mindfulness, although different patterns of significant positive and negative correlations were observed between their subscales and depressive symptoms, higher scores on the adaptive components of mindfulness and empathy were generally associated with

lower severity of depressive symptoms. Furthermore, the strong positive correlations between the subscales and the total score of each instrument indicate satisfactory internal consistency and construct validity of the measures used in the study.

Following evaluation of the measurement model and the initial model, the final structural model of the study, comprising direct and indirect paths among the variables, was fitted to the data. In this model, dispositional mindfulness was directly linked to cognitive empathy, affective empathy, and depressive symptoms, while cognitive empathy and affective empathy were also directly linked to depressive symptoms. Figure 1 presents the final structural model of the study.

Figure 1

Direct Effects in the Structural Model

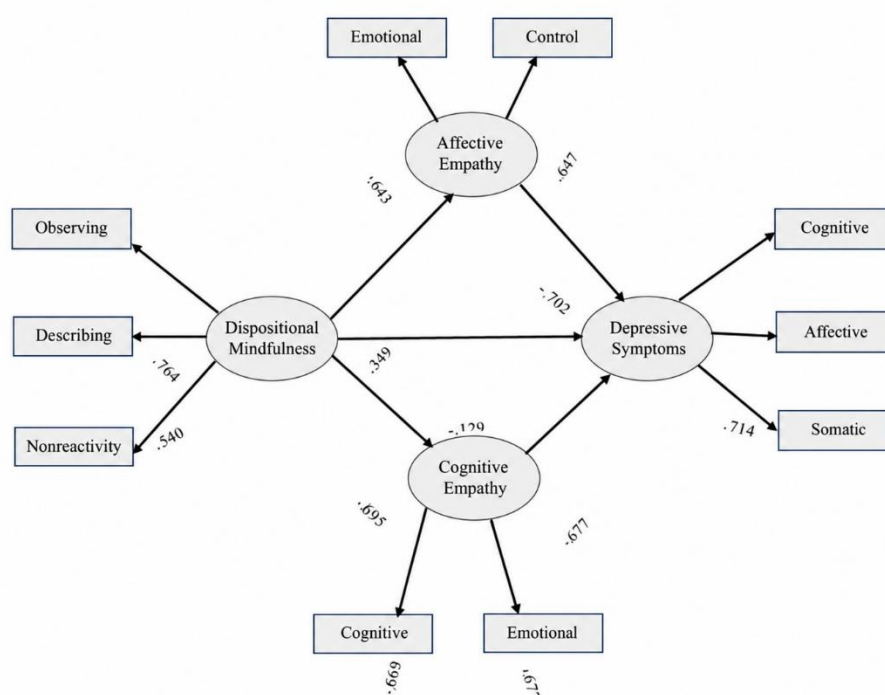


Table 4

Direct Effects in the Structural Model

Structural Path	B	SE	CR	p	β	R ²
Dispositional mindfulness → Cognitive empathy	0.216	0.052	4.16	.001	0.465	0.332
Dispositional mindfulness → Affective empathy	0.265	0.069	3.865	.001	0.449	0.295
Dispositional mindfulness → Depressive symptoms	-0.097	0.079	-1.157	.29	-0.129	0.079
Cognitive empathy → Depressive symptoms	0.016	0.145	0.012	.99	0.010	0.079
Affective empathy → Depressive symptoms	-0.138	0.132	-1.076	.32	-0.202	0.079

A relationship was hypothesized between dispositional mindfulness and depressive symptoms. As shown in Table 4, the path coefficient between these two constructs was negative ($\beta = -0.129$), while the significance level was greater than .05. This indicates that although the direction of the relationship was negative, its magnitude was insufficient to reach statistical significance. Therefore, it cannot be concluded that an increase in dispositional mindfulness leads to a reduction in depressive symptoms.

A relationship was observed between dispositional mindfulness and cognitive empathy. Based on the data presented in Table 4, the path coefficient between these two constructs was positive and equal to $\beta = 0.465$. The significance level for this path was also less than .001, indicating that the relationship was statistically significant. This finding demonstrates that higher levels of dispositional mindfulness are significantly associated with higher levels of cognitive empathy.

A relationship was observed between dispositional mindfulness and affective empathy. As reported in the table above, the path coefficient for this relationship was positive and equal to $\beta = 0.449$. The significance level was also less than .001, demonstrating that this path was statistically significant. Therefore, it can be concluded that as dispositional mindfulness increases, affective empathy also increases significantly.

A relationship was hypothesized between cognitive empathy and depressive symptoms. The findings presented in the table above indicate that the path coefficient between these two constructs was extremely weak, with $\beta = 0.010$. The significance level was greater than .05, indicating that the path was not statistically significant. Therefore, changes in cognitive empathy could not account for significant changes in depressive symptoms. Accordingly, the fourth hypothesis of the study was not supported.

A relationship was hypothesized between affective empathy and depressive symptoms. As shown in Table 4, the obtained path coefficient was negative and equal to $\beta = -0.202$. The significance level was greater than .05, indicating

that this relationship was not statistically significant. Therefore, although the direction of the association was negative, there was insufficient statistical evidence to support the relationship.

4. Discussion

The present study examined the relationships of dispositional mindfulness, cognitive empathy, and affective empathy with depressive symptoms among adults aged 18–45 years in Tabriz. The results of the structural model showed that dispositional mindfulness had a significant positive relationship with cognitive empathy ($\beta = 0.465, p < .001$) and with affective empathy ($\beta = 0.449, p < .001$). In contrast, the direct relationship between dispositional mindfulness and depressive symptoms was negative but not statistically significant ($\beta = -0.129, p > .05$). Cognitive empathy was also not significantly associated with depressive symptoms ($\beta = 0.010, p > .05$), and although affective empathy showed a negative path coefficient with depressive symptoms ($\beta = -0.202$), this relationship was likewise not statistically significant. Collectively, these findings indicate that dispositional mindfulness was more strongly and consistently related to empathic functioning than to depressive symptom severity. They also suggest that neither cognitive nor affective empathy had a sufficiently strong direct association with depressive symptoms to account for meaningful variance in depression within the present sample. This pattern is important because it indicates that mindfulness may be closely connected to interpersonal and emotional capacities even when its direct association with depressive symptomatology is weak or statistically nonsignificant.

The significant positive relationship between dispositional mindfulness and cognitive empathy is consistent with theoretical perspectives emphasizing the role of present-moment attention, attentional flexibility, and reduced automatic judgment in social understanding. Cognitive empathy requires the ability to infer the thoughts, intentions, and perspectives of others, and this process may

be facilitated when individuals are better able to regulate attention and remain open to incoming interpersonal information. Mindfulness may reduce self-focused cognitive interference and permit greater allocation of attentional resources to social cues, thereby enhancing perspective taking and understanding of others' mental states. This interpretation is consistent with findings showing that mindfulness-related interventions can improve emotional and interpersonal capacities. For example, mindfulness-based educational experiences have been associated with improvements in empathy and emotion regulation among nursing students, suggesting that mindful awareness may support the cognitive processes required for accurately understanding others (Lee, 2025). Similarly, the broader embodied and embedded mindfulness framework proposes that mindfulness is inherently connected with relational awareness, bodily signals, and contextual sensitivity, all of which are relevant to empathic cognition (Khoury et al., 2025). Findings from parent-child and caregiver research also indicate that mindfulness can enhance interpersonal responsiveness and relationship quality, further supporting the idea that mindfulness is linked to social understanding rather than functioning solely as an intrapersonal regulatory trait (Jaiswal et al., 2025; Rakhshani et al., 2025). The present finding therefore extends this body of work by showing that even outside formal mindfulness intervention settings, higher dispositional mindfulness is associated with greater cognitive empathy.

The positive association between dispositional mindfulness and affective empathy also aligns with previous research suggesting that mindfulness may enhance emotional receptivity while reducing defensive avoidance and impulsive reactivity. Affective empathy involves emotional resonance with another person's emotional state, and mindful individuals may be more capable of noticing emotional cues and allowing emotional experiences to arise without immediately suppressing or escaping them. This may create a greater capacity for emotionally attuned responding. At the same time, mindful awareness may help distinguish between empathic concern and emotional overidentification, allowing individuals to remain sensitive to others without becoming overwhelmed by their distress. This interpretation is supported by work distinguishing compassion, empathy, and self-regulation. Holas and Roczon showed that empathy and compassionate responding can be protective under some conditions but emotionally burdensome under others, indicating that the regulatory context in which empathy occurs is crucial (Holas &

Roczon, 2026). Similarly, mindfulness and compassion models emphasize that adaptive emotional engagement involves both openness to experience and regulation of reactivity (Khoury et al., 2025). Research among caregivers and parent-child dyads also provides indirect support for this relationship, as mindfulness-based interventions have been associated with improvements in self-compassion, relationship quality, and emotionally attuned interaction (Jaiswal et al., 2025; Rakhshani et al., 2025). The present finding is therefore compatible with the view that mindfulness is associated not only with cognitive perspective taking but also with greater affective responsiveness.

In contrast to the significant relationships with empathy, the direct path from dispositional mindfulness to depressive symptoms was not statistically significant, although the coefficient was negative. This result does not necessarily contradict the extensive literature linking mindfulness with lower psychological distress; rather, it suggests that the association may be indirect, conditional, or dependent on intervening psychological processes. A growing number of studies have shown that mindfulness may influence depressive symptoms through mechanisms such as rumination, self-compassion, cognitive distortions, psychological flexibility, and experiential avoidance. For example, Wu et al. reported that mindfulness was linked to depression through the mediating roles of self-compassion and rumination, indicating that the effect of mindfulness may be transmitted through specific regulatory processes rather than reflected in a strong direct relationship (Wu et al., 2025). Similarly, cognitive distortions have been identified as a mediator between dispositional mindfulness and psychological distress among college students (Kingery et al., 2025), while psychological flexibility and role satisfaction have been shown to mediate associations between mindfulness and postpartum depressive symptoms (Chasson, 2026). Amanambu et al. likewise demonstrated that dispositional mindfulness can buffer the influence of rumination on depressive symptoms (Amanambu et al., 2025). These findings suggest that the nonsignificant direct effect observed in the present study may reflect the omission of intermediate variables through which mindfulness exerts its protective influence.

The present finding also accords with studies indicating that the mindfulness-depression relationship may vary across contexts, populations, and levels of symptom severity. Longitudinal evidence has generally supported an inverse relationship between dispositional mindfulness and

psychological distress, particularly among adolescents (Chong & Xu, 2026; Zhu et al., 2025). However, such associations are often embedded in broader networks of psychological functioning and may not emerge consistently as direct effects in every population. For instance, Sattler showed that dispositional mindfulness mediated the relationship between internalized homonegativity and depressive symptoms, suggesting that mindfulness may function as a process variable within a larger psychosocial pathway rather than as an isolated predictor (Sattler, 2025). Similarly, Donofry et al. found that depressive symptoms themselves could mediate associations between dispositional mindfulness and dietary quality in specific behavioral contexts (Donofry et al., 2026). Research on negative life events has also suggested that dispositional mindfulness and self-compassion may operate as buffers rather than simple direct predictors of depression (Arentz, 2025). The present nonsignificant direct path may therefore indicate that dispositional mindfulness is better conceptualized as a resilience-related resource that influences how individuals process stressors and internal experiences, rather than as a variable that necessarily predicts lower depressive symptoms in a simple linear fashion.

The nonsignificant relationship between cognitive empathy and depressive symptoms is also theoretically meaningful. Cognitive empathy primarily concerns understanding another person's perspective or emotional state and does not necessarily involve emotional sharing. As a result, high cognitive empathy may not directly protect against depressive symptoms unless it is integrated with adaptive emotion regulation, social support, or self-related cognitive processes. The present result is partly consistent with research indicating that empathy may function as a mediator or contextual factor rather than as a direct determinant of depressive symptoms. Peifer et al. demonstrated that cognitive and affective empathy can mediate relationships involving identity processes and anxious and depressive symptoms among college students, highlighting that empathy may operate within broader psychosocial pathways (Peifer et al., 2026). From this perspective, cognitive empathy alone may be insufficient to predict depressive symptomatology because understanding others' perspectives does not automatically alter maladaptive self-focused cognition, rumination, hopelessness, or anhedonia. This interpretation is further supported by studies showing that psychological distress is strongly linked to cognitive processes such as distortions and

rumination, which may be more proximally related to depression than interpersonal perspective taking (Kingery et al., 2025; Wu et al., 2025). Therefore, the absence of a significant direct association in the present study may indicate that cognitive empathy has a more indirect and socially mediated role in relation to depression.

The relationship between affective empathy and depressive symptoms was negative but nonsignificant. Although this direction suggests that individuals with greater affective empathy may tend to report somewhat fewer depressive symptoms, the association was not strong enough to support a direct protective effect. This finding is compatible with the complex theoretical status of affective empathy in mental health. Affective empathy can promote social connection, emotional closeness, and prosocial engagement, all of which may be protective against psychological distress. However, heightened affective responsiveness can also increase susceptibility to emotional contagion, interpersonal stress, and empathic distress, particularly when individuals lack sufficient emotional boundaries or self-regulatory capacities. Holas and Roczon emphasized precisely this distinction by showing that compassionate and empathic responding can either protect or overwhelm, depending on the quality of the individual's emotional regulation and self-directed coping (Holas & Roczon, 2026). Therefore, affective empathy may not show a uniform negative relationship with depression. In some individuals, it may facilitate support and connection; in others, it may increase vulnerability to the emotional states of others. The weak negative coefficient observed in the present study may represent the combined influence of these opposing tendencies.

The overall pattern of results supports a broader interpretation in which dispositional mindfulness is closely associated with interpersonal-emotional capacities but only indirectly connected to depressive symptoms. This interpretation is consistent with evidence that mindfulness influences multiple domains of psychological functioning, including emotional awareness, behavioral regulation, self-compassion, cognitive flexibility, and social connectedness. For example, mindfulness has been linked to better digital life balance and lower smartphone addiction, indicating effects on self-regulation outside the domain of mood (Aldbyani et al., 2025). It has also been associated with psychological functioning in individuals with psychopathological traits, suggesting that mindfulness may influence how internal experiences are processed rather than simply lowering symptom levels in a direct fashion (Ecker

et al., 2025; Zappullo et al., 2026). Intervention research similarly shows that mindfulness-based cognitive therapy can reduce depression-related cognitive and emotional dysregulation (Nandarathana et al., 2025), while mindfulness programs can improve stress, anxiety, depression, sleep quality, social support, and life satisfaction (Alvarado-García et al., 2025). Brain stimulation research has even suggested that dispositional mindfulness itself may be modifiable, further emphasizing that it represents a dynamic psychological capacity rather than merely a fixed trait (Rayani et al., 2025). Accordingly, the present findings may indicate that mindfulness contributes first to how individuals attend, regulate, and relate to emotional and interpersonal information, with any impact on depression emerging through downstream mechanisms.

5. Conclusion

The results fit with broader work emphasizing the integration of mindfulness and compassion in psychological health. Mindfulness-based compassionate living has demonstrated that experiential avoidance, fear of self-compassion, and positive affect can mediate responses in recurrent depression (Scheepbouwer et al., 2025). This is relevant to the present findings because empathy itself may be beneficial only when accompanied by adaptive regulation and self-directed compassion. Likewise, combined yoga and mindfulness approaches have been associated with improvements in depression, anxiety, and stress, supporting the view that mindfulness-related benefits may depend on broader mind-body regulatory processes (Barua, 2025). In this sense, the current finding that mindfulness predicted both cognitive and affective empathy but did not directly predict depression may reflect a more proximal relationship with emotional and relational functioning than with symptom severity. This interpretation is also consistent with evidence that parents' dispositional mindfulness can influence child behavior through child mindfulness, illustrating how mindfulness may exert effects through relational and mediational pathways (Levantini et al., 2025). Rather than weakening the relevance of mindfulness to depression, the current findings therefore suggest a need to study the intermediary processes that connect mindful awareness to emotional well-being.

6. Limitations & Suggestions

Several limitations should be considered when interpreting the present findings. First, the correlational and

cross-sectional design precludes causal inference, and the observed relationships cannot establish whether mindfulness enhances empathy, whether empathic capacities foster mindful awareness, or whether both are influenced by unmeasured third variables. Second, the use of convenience sampling limits the generalizability of the findings beyond adults in Tabriz who were accessible through healthcare centers, psychological clinics, universities, and online recruitment. Third, all variables were measured using self-report questionnaires, which may introduce common-method variance, social desirability bias, and response-style effects. Fourth, although the study included adults with at least one depressive symptom, participants were not necessarily diagnosed with a depressive disorder, and the findings should not be generalized directly to clinical populations with major depressive disorder. Fifth, potentially important variables such as rumination, self-compassion, psychological flexibility, social support, stressful life events, and emotion regulation were not included in the structural model, despite their likely relevance to the relationships observed.

Future studies should employ longitudinal and prospective designs to clarify the temporal ordering of mindfulness, empathy, and depressive symptoms and to determine whether changes in mindfulness precede changes in empathic capacities or depressive symptomatology. Researchers could also test more comprehensive mediation and moderation models incorporating rumination, self-compassion, cognitive distortions, psychological flexibility, emotion regulation, perceived social support, and stressful life events. Replication in clinical samples with diagnosed depressive disorders would help determine whether the present pattern differs according to symptom severity or diagnostic status. Probability sampling and multisite studies across different cultural and geographic settings would improve generalizability. Future research may also benefit from multimethod assessment, combining self-report scales with behavioral empathy tasks, clinician-rated depressive symptoms, ecological momentary assessment, and physiological or neurocognitive indicators. Examining gender, age, socioeconomic status, and clinical history as potential moderators may further clarify whether the associations among mindfulness, empathy, and depressive symptoms vary across subgroups.

In practice, the findings suggest that interventions aimed at strengthening dispositional mindfulness may be useful for enhancing cognitive and affective empathy even when immediate reductions in depressive symptoms are not

observed. Psychological training programs could therefore integrate mindfulness exercises with perspective-taking, emotion recognition, and empathic communication skills. Clinicians should avoid assuming that increasing empathy alone will necessarily reduce depressive symptoms, particularly because affective empathy may be beneficial for some individuals but emotionally taxing for others. Mindfulness-based interventions may be more effective when combined with strategies targeting rumination, maladaptive cognitions, self-compassion, emotion regulation, and psychological flexibility. In educational, counseling, and community settings, programs designed to promote present-moment awareness alongside healthy interpersonal boundaries may help individuals develop empathic sensitivity without excessive emotional overinvolvement.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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.

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