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Comparison of the Effectiveness of Intensive Short-Term Psychodynamic Therapy and Emotion-Focused Therapy on Pain Catastrophizing in Patients with Psychosomatic Disorders

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A B S T R A C T

The present study aimed to compare the effectiveness of Intensive Short-Term Psychodynamic Therapy and Emotion-Focused Therapy on reducing pain catastrophizing among patients diagnosed with psychosomatic disorders. This applied study employed a quasi-experimental design with a pretest–posttest control group and a three-month follow-up phase. The statistical population consisted of patients with psychosomatic disorders who referred to Niyayesh Psychiatric Hospital in Tehran during 2024–2025. Using purposive sampling, 45 eligible participants were selected and randomly assigned to three groups: Intensive Short-Term Psychodynamic Therapy, Emotion-Focused Therapy, and a control group (15 participants in each group). The experimental groups received structured therapeutic interventions across multiple weekly sessions, while the control group remained on a waiting list without intervention. Data were collected using standardized psychological instruments measuring psychosomatic symptoms and pain catastrophizing at pretest, posttest, and follow-up stages. Data analysis was conducted using SPSS-28 through descriptive statistics, analysis of covariance, mixed-design repeated measures analysis of variance, multivariate analysis of variance, and Bonferroni post hoc tests after confirming statistical assumptions. Analysis of covariance indicated that Emotion-Focused Therapy significantly reduced pain catastrophizing compared with the control group ($p < 0.01$), whereas Intensive Short-Term Psychodynamic Therapy did not demonstrate a statistically significant effect. Repeated-measures analysis revealed a significant main effect of time ($p < 0.01$) and a significant interaction effect between time and group ($p < 0.05$), indicating differential changes across interventions over measurement stages. Bonferroni post hoc comparisons showed that the Emotion-Focused Therapy group achieved significantly lower adjusted posttest scores than the control group ($p < 0.05$). Pairwise comparisons across time demonstrated significant reductions from pretest to posttest and follow-up only in the Emotion-Focused Therapy group, confirming maintenance of treatment effects, while no significant changes were observed in the psychodynamic or control groups.

Keywords: *Psychosomatic Disorders, Pain Catastrophizing, Emotion-Focused Therapy, Intensive Short-Term Psychodynamic Therapy.*

1. Introduction

Pain is not merely a physiological phenomenon but a complex biopsychosocial experience shaped by cognitive, emotional, interpersonal, and neuropsychological processes. In recent decades, psychosomatic disorders have increasingly been conceptualized within integrative models emphasizing the interaction between emotional dysregulation, cognitive appraisal, and bodily symptom expression. Psychosomatic patients frequently experience persistent physical symptoms without sufficient organic explanations, and psychological mechanisms such as emotional suppression, maladaptive coping, and dysfunctional cognitive interpretations play central roles in symptom maintenance (Erbildim & Nweke, 2025; Kang et al., 2025). Among the psychological constructs associated with chronic pain and psychosomatic dysfunction, pain catastrophizing has received substantial attention due to its predictive power in determining pain severity, disability, emotional distress, and treatment outcomes (Derakhshan et al., 2022; Ying Zhou, 2024). Pain catastrophizing refers to exaggerated negative mental sets activated during actual or anticipated painful experiences, characterized by rumination, magnification, and feelings of helplessness toward pain.

Theoretical and empirical evidence indicates that catastrophizing is not simply a cognitive distortion but reflects deeper emotional processing deficits and maladaptive emotion regulation strategies. Individuals with psychosomatic disorders often demonstrate reduced emotional awareness and difficulties identifying, expressing, and regulating affective experiences, which subsequently manifest through somatic channels (Kang et al., 2025). Emotional awareness deficits have been shown to correlate strongly with somatic symptom intensity, suggesting that bodily distress may serve as an alternative expression of unprocessed emotional experiences. Emotion regulation strategies therefore function as central mediators between psychological vulnerability and somatic symptom expression (Bagheri Sheykhangafshe et al., 2022). Research conducted during the COVID-19 pandemic further emphasized that maladaptive emotion regulation patterns significantly predict mental health deterioration, highlighting emotion regulation as a transdiagnostic mechanism underlying psychological and somatic distress (Bagheri Sheykhangafshe et al., 2022; Ursu & Măirean, 2022).

Pain catastrophizing has also been closely linked with resilience, cognitive appraisal, and emotional flexibility. Studies demonstrate that higher psychological resilience and adaptive emotional processing reduce catastrophic thinking and improve coping with chronic illness and pain conditions (Mir Ahmadi et al., 2022; Ying Zhou, 2024). Conversely, individuals who struggle with emotion regulation tend to rely on maladaptive cognitive strategies such as rumination and avoidance, which intensify pain perception and psychological suffering (Leonard et al., 2019). Trauma-related cognitions and maladaptive cognitive emotion regulation patterns similarly contribute to persistent distress by reinforcing negative interpretations of internal experiences (McLean et al., 2019). These findings collectively support the assumption that effective treatment of psychosomatic disorders requires therapeutic approaches targeting both emotional processing and underlying psychodynamic conflicts rather than focusing solely on symptom reduction.

Emotion-Focused Therapy (EFT) represents one of the most prominent experiential approaches designed to transform maladaptive emotional schemas and facilitate adaptive emotional processing. EFT assumes that psychological distress emerges when individuals lose access to primary adaptive emotions and instead operate through secondary defensive emotional responses. Empirical evidence has demonstrated the effectiveness of EFT in reducing anxiety sensitivity, experiential avoidance, and pain catastrophizing among individuals suffering from chronic pain conditions (Shokrolahi et al., 2022; Shokrolahi et al., 2023). Comparative intervention studies have also shown that emotion-focused interventions improve coping strategies and reduce catastrophic interpretations of pain more effectively than several traditional cognitive approaches (Fazeli Sani et al., 2020). Furthermore, emotion-based therapeutic models implemented at both individual and family levels have successfully enhanced emotional differentiation and reduced alexithymia in patients with psychosomatic symptoms, reinforcing the centrality of emotional processing in psychosomatic recovery (Ghanavati et al., 2025; Ghavanati et al., 2025). These outcomes highlight EFT's potential to directly address emotional mechanisms underlying pain catastrophizing.

Parallel to experiential approaches, psychodynamic psychotherapy has reemerged as an evidence-based intervention for psychosomatic and chronic pain disorders. Intensive Short-Term Dynamic Psychotherapy (ISTDP), originally developed by Davanloo, focuses on rapid

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identification of unconscious emotional conflicts, restructuring defensive processes, and facilitating emotional experiencing. Contemporary reviews confirm the efficacy of ISTDP across mood and somatic disorders, demonstrating significant reductions in psychological symptoms through enhanced emotional processing and defense restructuring (Caldiroli et al., 2020). Randomized controlled trials have further shown that ISTDP delivered either face-to-face or via telemedicine significantly reduces medically unexplained pain and improves long-term psychological functioning (Chavooshi et al., 2016). Additional studies report that intensive psychodynamic therapy improves attachment styles, somatization levels, and health anxiety in patients with chronic pain, suggesting that psychodynamic interventions effectively target the relational and unconscious determinants of psychosomatic distress (Nakhaei Moghadam et al., 2024). Comparative investigations have also indicated that ISTDP can reduce anxiety sensitivity and improve psychological flexibility in chronic pain populations (Karimi et al., 2023).

Despite growing evidence supporting both emotion-focused and psychodynamic therapies, psychosomatic disorders remain challenging to treat because they involve intertwined emotional, cognitive, and interpersonal mechanisms. Psychological models increasingly emphasize that somatic symptoms emerge from cumulative failures in emotional processing, interpersonal regulation, and cognitive meaning-making systems (Hadadian et al., 2020). Integrative perspectives propose that interventions capable of addressing both emotional awareness and unconscious conflict resolution may produce stronger and more sustainable therapeutic outcomes. Emotion regulation difficulties have been shown to mediate relationships between guilt, shame proneness, and somatic symptoms, underscoring the importance of therapies that transform emotional experience rather than suppress it (Erbildim & Nweke, 2025). Similarly, maladaptive cognitive emotion regulation patterns intensify stress reactions and psychological vulnerability across clinical populations, reinforcing the need for treatments that modify emotional processing at a foundational level (Ursu & Măirean, 2022).

Recent clinical research also highlights the role of culturally contextualized psychological interventions in enhancing treatment responsiveness among psychosomatic patients. Studies conducted within Iranian clinical populations reveal strong associations between emotion regulation deficits, psychological distress, and psychosomatic symptom severity, suggesting that culturally adapted psychotherapeutic approaches may enhance effectiveness (Derakhshan et al., 2022; Ebrahimkhani et al., 2024). Cognitive and emotion-based interventions have been shown to improve pain self-efficacy and reduce catastrophizing in medical populations, further supporting psychological treatment as a key component of multidisciplinary pain management (Ebrahimkhani et al., 2024). These findings align with emerging international research emphasizing emotion-centered models as critical pathways for improving quality of life among individuals suffering from chronic medical and psychosomatic conditions.

Although both Intensive Short-Term Psychodynamic Therapy and Emotion-Focused Therapy demonstrate promising therapeutic outcomes independently, direct comparative studies examining their relative effectiveness on pain catastrophizing among psychosomatic patients remain limited. Existing literature has primarily evaluated each intervention separately or compared them with cognitive-behavioral approaches rather than with one another (Fazeli Sani et al., 2020; Shokrolahi et al., 2023). Given that psychodynamic therapy targets unconscious emotional conflicts while EFT focuses on transforming conscious emotional experience, comparing these approaches may clarify whether symptom improvement is more strongly associated with deep conflict resolution or experiential emotional transformation. Such comparison is particularly important because pain catastrophizing operates at the intersection of cognition, emotion, and bodily perception, making it an ideal outcome variable for evaluating theoretically distinct but emotionally oriented therapeutic models.

Furthermore, the chronic nature of psychosomatic disorders necessitates evaluation not only of immediate treatment effects but also of stability across follow-up periods. Research consistently shows that sustainable improvement depends on internalization of emotional regulation capacities rather than temporary symptom suppression (Ying Zhou, 2024). Understanding whether therapeutic gains persist over time provides critical insight into mechanisms of psychological change and long-term adaptation. Therefore, investigating both post-treatment effectiveness and follow-up stability allows a more comprehensive assessment of clinical efficacy.

Considering the central role of emotional dysregulation in psychosomatic disorders, the established relationship between emotional processing and pain catastrophizing, and the growing empirical support for both Intensive Short-Term

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Psychodynamic Therapy and Emotion-Focused Therapy, a systematic comparison of these two interventions appears theoretically and clinically justified. Accordingly, the present study aimed to compare the effectiveness of Intensive Short-Term Psychodynamic Therapy and Emotion-Focused Therapy on pain catastrophizing among patients with psychosomatic disorders.

2. Methods and Materials

2.1. Study Design and Participants

The present study was an applied investigation conducted using a quasi-experimental design with a pretest–posttest structure including a control group and a follow-up phase. The methodological framework was selected in accordance with the research objectives, which aimed to examine and compare the therapeutic effectiveness of Intensive Short-Term Psychodynamic Therapy (ISTDP) and Emotion-Focused Therapy (EFT) on pain catastrophizing among patients diagnosed with psychosomatic disorders. The study population consisted of all patients with psychosomatic disorders who referred to Niyayesh Psychiatric Hospital in Tehran to receive specialized psychiatric and psychological services between July 2024 and March 2025.

Participants were recruited through purposive non-random sampling. Individuals were screened based on predetermined inclusion criteria to ensure clinical homogeneity and methodological rigor. Eligible participants were required to possess at least a high school diploma, receive a definitive diagnosis of psychosomatic disorder confirmed jointly by a psychiatrist and a clinical psychologist, and complete a written informed consent form indicating voluntary participation in treatment sessions. Participants were also required not to receive concurrent individual psychological counseling during the intervention period to prevent treatment contamination. Only individuals without severe psychiatric comorbidity and with a clinically stable health status were included. The acceptable age range for participation was between 20 and 40 years. Furthermore, participants were required to obtain a score higher than 40 on the psychosomatic disorder questionnaire, indicating clinically meaningful symptom severity.

Exclusion criteria were carefully defined to maintain internal validity. Participants were excluded if they were absent from more than two therapeutic sessions or if they expressed unwillingness to continue participation during the intervention process. These criteria were applied continuously throughout the study period.

Sample size estimation was conducted based on Cohen's table (1981), which indicated that a minimum of ten participants per group was statistically sufficient. Considering the presence of three groups and the likelihood of participant attrition, as well as recommendations from comparable intervention studies suggesting larger group sizes, a total of forty-five eligible individuals were selected. Participants who achieved scores above 45 on the psychosomatic disorder scale, below 35 on pain self-efficacy measures, and above 50 on alexithymia assessment were included as the final research sample. The selected participants were assigned to three groups consisting of two experimental groups and one control group, each comprising fifteen participants. The two experimental groups received either Intensive Short-Term Psychodynamic Therapy or Emotion-Focused Therapy, while the control group remained on a waiting list and did not receive any psychological intervention during the study period.

Before initiating the intervention, participants received a comprehensive explanation regarding the study objectives, therapeutic procedures, session structure, and ethical considerations. Ethical principles such as confidentiality, voluntary withdrawal, and informed participation were emphasized. After completion of the treatment programs, all participants responded to the research questionnaires assessing alexithymia, pain self-efficacy, and pain catastrophizing. The control group completed assessments simultaneously without receiving treatment. A follow-up assessment was conducted three months after the posttest phase to evaluate the stability and durability of treatment effects over time.

2.2. Measures

Data collection was carried out using standardized psychological instruments with established psychometric properties. The Psychosomatic Complaint Scale developed by Takata and Sakata was employed to assess the severity of psychosomatic symptoms. This instrument consists of 30 items scored on a four-point Likert scale ranging from "never" (score 0) to "frequently" (score 3), producing total scores between 0 and 90, with higher scores indicating greater psychosomatic symptom severity. Previous psychometric evaluations reported Cronbach's alpha coefficients ranging between 0.90 and 0.93 across repeated administrations, indicating high internal consistency. Construct validity analyses supported a single-factor structure explaining approximately 31% to 34% of the total

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variance. Iranian validation studies demonstrated acceptable concurrent validity and reliability indices using test–retest and internal consistency methods. In the present study, internal consistency reliability calculated through Cronbach's alpha was 0.80, confirming acceptable reliability within the current sample.

Pain catastrophizing was assessed using the Pain Catastrophizing Questionnaire developed by Sullivan and colleagues in 1995. This instrument includes 13 items derived from theoretical definitions of catastrophic thinking related to pain experiences. Participants were instructed to reflect on previous painful experiences and rate the frequency of specific thoughts and emotions experienced during pain using a five-point Likert scale ranging from 0 ("not at all") to 4 ("all the time"). The questionnaire can be completed and scored within approximately five minutes. It yields a total score as well as three subscale scores representing rumination, magnification, and helplessness. Total scores are obtained by summing responses across all 13 items, producing a score range between 0 and 52. Psychometric investigations have demonstrated satisfactory to excellent internal consistency, with Cronbach's alpha coefficients reported as 0.87 for the total scale, 0.87 for rumination, 0.66 for magnification, and 0.78 for helplessness. Iranian research confirmed acceptable construct validity and reliability, with internal consistency coefficients for subscales ranging between 0.76 and 0.83. In the present study, Cronbach's alpha reliability for the Pain Catastrophizing Questionnaire was calculated as 0.81, indicating adequate internal reliability.

All instruments were administered at three measurement stages consisting of pretest, posttest, and three-month follow-up assessment. Standardized administration procedures were applied to minimize measurement bias, and participants completed questionnaires under supervised conditions to ensure accuracy and completeness of responses.

2.3. Interventions

The Emotion-Focused Therapy (EFT) intervention was implemented based on the therapeutic principles, stages, and techniques proposed by Goldman and Greenberg (2015). A structured treatment program tailored for patients with psychosomatic disorders was first developed and then evaluated for content validity by five clinical psychologists and counselors specializing in psychosomatic conditions. Their expert feedback was collected through several review stages and incorporated into the final therapeutic protocol. The intervention consisted of ten structured sessions designed to facilitate emotional awareness, processing, transformation, and integration. The initial session focused on establishing a therapeutic alliance, introducing treatment goals, explaining psychosomatic disorders and their emotional foundations, conducting the pretest assessment, and promoting commitment to treatment participation. Subsequent sessions emphasized emotional exploration and restructuring, beginning with identifying clients' emotional processing styles through attentive listening and recognition of painful emotional experiences. Therapy progressively guided participants toward accessing primary emotions linked to attachment needs and unresolved trauma, encouraging emotional acceptance and experiential processing. Middle-phase sessions promoted deep emotional engagement through techniques such as emotional expression, awareness enhancement, emotion regulation training, and experiential exercises including chair work to distinguish primary, secondary, and instrumental emotions. Therapists helped patients overcome emotional blocks that prevented access to authentic emotional experiences and facilitated direct emotional experiencing. Later sessions emphasized consolidation and integration of adaptive emotional responses, restructuring interpersonal interactions, symbolizing previously suppressed wishes, and developing experiential insight through exploration of internal object representations related to significant relational figures. Creative modalities such as body awareness, movement, imagery, music, and expressive activities were employed to stabilize a renewed sense of self and generalize therapeutic gains to future life situations. The final session focused on integration, narrative reconstruction of personal difficulties, development of new coping solutions, role-playing adaptive responses to life stressors, and administration of the posttest assessment. Overall, the EFT protocol aimed to enhance emotional awareness, deepen emotional experience, improve emotion regulation capacity, and reduce maladaptive emotional responses contributing to pain catastrophizing in psychosomatic patients.

The Intensive Short-Term Psychodynamic Therapy (ISTDP) intervention consisted of nine weekly sessions, each lasting approximately 75 minutes, implemented according to Davanloo's short-term dynamic psychotherapy manual (1995; Persian translation by Khalighi Sigaroudi, 2018). The therapeutic approach emphasized rapid access to unconscious emotional conflicts, restructuring maladaptive

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defenses, and facilitating emotional experiencing within a focused therapeutic framework. The first session involved orientation to therapy rules, clarification of treatment structure, and an initial psychodynamic assessment conducted through the dynamic sequence interview, often referred to as trial therapy, which introduced participants to the experiential nature of psychodynamic work. Subsequent sessions focused on identifying and working through tactical defense mechanisms that patients used to avoid emotional awareness. Therapists applied targeted interventions tailored to each individual's defensive patterns to increase moment-to-moment awareness of emotional experiences and strengthen reflective functioning. Therapy progressed through systematic identification of adaptive and maladaptive personality features, examination of indirect speech patterns and pathological thinking styles, and active confrontation of defensive behaviors through clarification, challenge, and questioning of defenses. Later sessions emphasized resolving internal conflicts by addressing rumination, rationalization, intellectualization, and overgeneralization processes. Therapeutic interventions included clarification, pressure, blocking of defenses, and direct confrontation aimed at reducing emotional resistance and enhancing psychological flexibility. Emotional regulation skills were developed through addressing avoidance tactics such as distraction and emotional suppression while encouraging realistic self-evaluation and reduced self-criticism. As treatment advanced, therapists focused on overcoming resistance to emotional disclosure, helping participants recognize that emotions and thoughts are dynamic rather than fixed constructs. Emotional activation was intensified by challenging cognitive avoidance and encouraging direct emotional experience instead of intellectual discussion about feelings, with attention to both verbal and nonverbal emotional expression. The final session involved therapeutic consolidation, review of progress, acknowledgment of therapeutic efforts, and structured termination of treatment. The ISTDP protocol ultimately sought to reduce maladaptive defenses, promote emotional insight, enhance psychological flexibility, and alleviate catastrophic interpretations of pain through resolution of underlying emotional conflicts.

2.4. Data analysis

Given that the collected research data were quantitative in nature, statistical analyses were performed using quantitative analytical procedures. Data analysis was conducted using SPSS software version 28. Initially, descriptive statistical analyses were performed to summarize demographic characteristics and baseline variables of participants across study groups. Measures such as frequency distributions, percentages related to demographic features, and descriptive statistics including means and standard deviations were calculated to examine the distribution of research variables within each group.

At the inferential level, statistical tests were selected according to measurement scales and underlying statistical assumptions. Prior to hypothesis testing, assumptions including normal distribution of data, homogeneity of variances, homogeneity of variance–covariance matrices, and the sphericity assumption were evaluated. To examine differences between groups across time points and to evaluate treatment effectiveness, mixed analysis of variance procedures were employed. Multivariate analysis of variance (MANOVA) was conducted to simultaneously assess changes across dependent variables and to control for Type I error inflation. Repeated measures analysis of variance was applied to evaluate within-group changes across pretest, posttest, and follow-up stages and to determine the persistence of treatment effects over time. When significant effects were identified, Bonferroni post hoc comparisons were used to examine pairwise differences between groups and measurement stages. These analytical procedures enabled comprehensive evaluation of both immediate and sustained therapeutic outcomes associated with Intensive Short-Term Psychodynamic Therapy and Emotion-Focused Therapy on pain catastrophizing among patients with psychosomatic disorders.

3. Findings and Results

The demographic characteristics of participants indicated a relatively homogeneous distribution across the three study groups. In the Intensive Short-Term Psychodynamic Therapy group, 73.3% of participants were female and 26.7% were male, while the Emotion-Focused Therapy group consisted of 60% females and 40% males, and the control group included 73.3% females and 26.7% males; statistical analysis showed no significant difference between groups in terms of gender distribution ($p = 0.661$). Regarding marital status, 66.7% of participants in the psychodynamic therapy group were single and 33.3% were married, compared with 60% single and 40% married in the emotion-focused therapy group, and 73.3% single and 26.7% married in the control group, again revealing no statistically

significant difference among groups (p = 0.741). Educational level was similarly balanced across groups. In the psychodynamic therapy group, 26.7% held a diploma, 60% had associate or bachelor's degrees, and 13.3% possessed postgraduate degrees; in the emotion-focused therapy group, 20% had diplomas, 60% had associate or bachelor's degrees, and 20% had postgraduate education; and in the control group, 33.3% had diplomas, 53.3% held associate or bachelor's degrees, and 13.3% had postgraduate degrees. Statistical testing indicated no significant differences in educational attainment among the three groups (p = 0.930). Overall, the absence of significant demographic differences suggests baseline comparability between experimental and control groups prior to intervention implementation.

Table 1

Descriptive Statistics of Pain Catastrophizing by Group and Measurement Time

Variable	Time	Intensive Short-Term Psychodynamic Therapy		Emotion-Focused Therapy		Control Group	
		Mean	SD	Mean	SD	Mean	SD
Pain Catastrophizing	Pretest	6.73	3.01	7.00	6.16	6.80	3.76
	Posttest	5.60	2.29	4.33	3.62	6.67	3.85
	Follow-up	5.80	2.24	4.47	3.72	6.53	3.82

The descriptive findings presented in Table 1 indicate that the three groups showed relatively comparable levels of pain catastrophizing at the pretest stage, suggesting initial equivalence before the interventions. The mean pain catastrophizing score in the Intensive Short-Term Psychodynamic Therapy group decreased from 6.73 at pretest to 5.60 at posttest and remained relatively stable at follow-up (M = 5.80), reflecting a sustained reduction after treatment. A more pronounced reduction was observed in the Emotion-Focused Therapy group, where the mean score declined from 7.00 at pretest to 4.33 at posttest and slightly increased but remained improved at follow-up (M = 4.47), indicating maintenance of therapeutic gains over time. In contrast, the control group showed minimal change across measurement stages, with mean scores of 6.80 at pretest, 6.67 at posttest, and 6.53 at follow-up, suggesting relative stability in pain catastrophizing without intervention. Overall, the descriptive trends suggest that both therapeutic approaches were associated with reductions in pain catastrophizing, with Emotion-Focused Therapy demonstrating a greater magnitude of change compared to Intensive Short-Term Psychodynamic Therapy, while no meaningful improvement occurred in the control condition.

Prior to conducting inferential statistical analyses, the underlying assumptions of parametric testing were examined to ensure the appropriateness of mixed analysis of variance procedures. The normality of score distributions for pain catastrophizing across groups and measurement stages was assessed using the Shapiro–Wilk test and inspection of skewness and kurtosis indices, which indicated that data were normally distributed. Homogeneity of variances between groups was evaluated using Levene's test, and the results confirmed equality of error variances across experimental and control groups. The assumption of homogeneity of covariance matrices was examined through Box's M test, which showed that covariance matrices were equal across groups. Additionally, the sphericity assumption for repeated measurements was assessed using Mauchly's test; where violations were detected, appropriate corrections such as Greenhouse–Geisser adjustments were applied. Multicollinearity and outliers were also inspected, and no extreme values or dependency problems were observed. Overall, the results confirmed that the statistical assumptions required for mixed-design ANOVA, MANOVA, and repeated measures analyses were adequately satisfied, permitting valid interpretation of the inferential findings.

Table 2

Results of Analysis of Covariance Examining the Effectiveness of Interventions on Pain Catastrophizing

Variable	Source of Effect	Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Pain Catastrophizing	Intensive Short-Term Psychodynamic Therapy	7.83	1	7.83	1.59	0.218	0.056
	Emotion-Focused Therapy	45.19	1	45.19	10.21	0.004	0.274

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The analysis of covariance results presented in Table 2 demonstrate that the effect of Intensive Short-Term Psychodynamic Therapy on pain catastrophizing was not statistically significant (F = 1.59, p = 0.218), indicating that although mean scores decreased descriptively, the reduction did not reach statistical significance after controlling for pretest scores. In contrast, Emotion-Focused Therapy showed a statistically significant effect on pain catastrophizing (F = 10.21, p = 0.004) with a moderate effect size (partial η^2 = 0.274), suggesting that this intervention produced a meaningful reduction in catastrophic pain cognitions compared with the control condition.

Table 3

Repeated Measures Analysis for Stability of Intervention Effects on Pain Catastrophizing

Variable	Source of Effect	Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Pain Catastrophizing	Group	44.28	2	22.14	0.617	0.544	0.029
	Time	49.08	1.11	44.34	7.27	0.008	0.148
	Time × Group	30.16	2.21	13.62	4.59	0.042	0.107

As shown in Table 3, the main effect of group was not statistically significant (F = 0.617, p = 0.544), indicating that overall group differences across all measurement stages were not independently significant. However, the main effect of time was significant (F = 7.27, p = 0.008), suggesting that pain catastrophizing scores changed significantly across measurement occasions regardless of group membership. Moreover, the interaction effect between time and group was statistically significant (F = 4.59, p = 0.042), demonstrating that the pattern of change over time differed between the intervention and control groups. This finding supports the presence of differential therapeutic effects and indicates stability of treatment outcomes across posttest and follow-up assessments.

Table 4

Bonferroni Post Hoc Test Comparing Intervention Effects on Pain Catastrophizing at Posttest

Variable	Group	Adjusted Posttest Mean	Standard Error	Reference Group	Comparison Group	Mean Difference	p
Pain Catastrophizing	Intensive Short-Term Psychodynamic Therapy	5.66	0.587	Psychodynamic Therapy	Control	-1.03	0.664
	Emotion-Focused Therapy	4.25	0.587	Emotion-Focused Therapy	Control	-2.44	0.016
	Control	6.69	0.587	Psychodynamic Therapy	Emotion-Focused Therapy	1.41	0.290

The Bonferroni post hoc comparisons reported in Table 4 indicate that the difference between Intensive Short-Term Psychodynamic Therapy and the control group at posttest was not statistically significant (p = 0.664). In contrast, Emotion-Focused Therapy showed a significant reduction in pain catastrophizing compared with the control group (p = 0.016), confirming the superior effectiveness of this intervention at the post-intervention stage. Additionally, the comparison between the two therapeutic interventions did not reveal a statistically significant difference (p = 0.290), although Emotion-Focused Therapy demonstrated lower adjusted mean scores.

Table 5

Pairwise Comparisons of Pain Catastrophizing Across Measurement Times

Variable	Group	Reference Time	Comparison Time	Mean Difference	p
Pain Catastrophizing	Intensive Short-Term Psychodynamic Therapy	Pretest	Posttest	1.13	0.215
		Pretest	Follow-up	0.93	0.318
		Posttest	Follow-up	-0.20	0.424
	Emotion-Focused Therapy	Pretest	Posttest	2.67	0.022
		Pretest	Follow-up	2.53	0.034
		Posttest	Follow-up	-0.13	0.546
	Control	Pretest	Posttest	0.13	0.499
		Pretest	Follow-up	0.27	0.301
		Posttest	Follow-up	0.13	0.499

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The pairwise comparisons displayed in Table 5 reveal that changes in pain catastrophizing within the Intensive Short-Term Psychodynamic Therapy group were not statistically significant across measurement stages, indicating limited temporal improvement despite descriptive reductions. Conversely, the Emotion-Focused Therapy group showed significant decreases from pretest to posttest ($p = 0.022$) and from pretest to follow-up ($p = 0.034$), demonstrating both immediate and sustained therapeutic effectiveness. No significant differences were observed between posttest and follow-up, suggesting stability of treatment gains over time. The control group exhibited no significant changes across any measurement intervals, confirming the absence of spontaneous improvement without therapeutic intervention. Collectively, these findings indicate that Emotion-Focused Therapy produced meaningful and stable reductions in pain catastrophizing, whereas psychodynamic intervention effects were comparatively weaker and statistically nonsignificant.

4. Discussion

The present study aimed to compare the effectiveness of Intensive Short-Term Psychodynamic Therapy (ISTDP) and Emotion-Focused Therapy (EFT) on pain catastrophizing among patients with psychosomatic disorders. The findings demonstrated that Emotion-Focused Therapy produced a statistically significant reduction in pain catastrophizing, whereas the effect of Intensive Short-Term Psychodynamic Therapy, although clinically meaningful at the descriptive level, did not reach statistical significance. Furthermore, repeated-measures analysis indicated significant changes across time and a significant interaction between time and group, suggesting that therapeutic improvement followed different trajectories depending on the intervention type. Follow-up analyses confirmed that the reduction achieved through Emotion-Focused Therapy remained stable over time, while the control group showed no meaningful change. These findings collectively highlight the central role of emotional processing interventions in modifying maladaptive cognitive interpretations of pain among psychosomatic patients.

The significant reduction of pain catastrophizing in the Emotion-Focused Therapy group aligns strongly with contemporary theoretical models emphasizing the primacy of emotional processing in psychosomatic functioning. Pain catastrophizing is increasingly understood as an affect-laden cognitive response emerging from unresolved emotional experiences rather than merely irrational thinking patterns. Studies have shown that deficits in emotional awareness and emotional differentiation significantly contribute to somatic symptom intensity and maladaptive pain appraisal (Kang et al., 2025). Emotion-Focused Therapy directly targets these deficits by facilitating access to primary adaptive emotions and transforming maladaptive emotional schemas. Previous research comparing EFT with other psychotherapeutic approaches has similarly reported significant reductions in pain catastrophizing and anxiety sensitivity among chronic pain patients, supporting the present findings (Shokrolahi et al., 2022; Shokrolahi et al., 2023). The experiential emphasis of EFT allows patients to reinterpret bodily sensations within a coherent emotional framework, thereby reducing catastrophic interpretations of pain experiences.

Another explanation for the superior effectiveness of EFT may lie in its focus on emotion regulation mechanisms. Emotional dysregulation has been identified as a core pathway linking psychological distress with somatic symptom expression. Systematic reviews indicate that maladaptive emotion regulation strategies significantly predict poorer mental health outcomes and intensify somatic complaints (Bagheri Sheykhangafshe et al., 2022). By promoting emotional acceptance, awareness, and adaptive emotional expression, EFT may weaken the cognitive processes of rumination and helplessness that characterize pain catastrophizing. Research has shown that adaptive emotion regulation strategies reduce catastrophic thinking by improving resilience and enhancing coping resources (Ursu & Măirean, 2022; Ying Zhou, 2024). The sustained improvement observed at follow-up further supports the assumption that emotional transformation leads to durable cognitive change rather than temporary symptom relief.

The non-significant statistical effect of Intensive Short-Term Psychodynamic Therapy requires careful interpretation. Although ISTDP produced descriptive reductions in pain catastrophizing, its effect size did not reach statistical significance compared with the control group. Psychodynamic theory posits that psychosomatic symptoms arise from unconscious emotional conflicts and defensive processes that inhibit emotional expression. ISTDP aims to dismantle these defenses and facilitate emotional experiencing, which has demonstrated efficacy across mood disorders and medically unexplained symptoms (Caldiroli et al., 2020). Randomized controlled trials have shown that psychodynamic therapy significantly reduces medically unexplained pain and improves long-term functioning (Chavooshi et al., 2016). Moreover, studies

indicate that ISTDP improves attachment styles, somatization, and health anxiety among chronic pain patients (Nakhaei Moghadam et al., 2024). Therefore, the absence of statistical significance in the present study does not necessarily imply therapeutic inefficacy but may reflect methodological factors such as sample size, treatment duration, or variability in emotional readiness among participants.

It is also plausible that psychodynamic interventions require longer therapeutic exposure to influence deeply rooted cognitive constructs such as pain catastrophizing. Psychodynamic therapy primarily targets unconscious relational patterns and defense mechanisms, processes that may evolve gradually compared with the rapid experiential shifts facilitated by EFT. Previous investigations comparing psychodynamic approaches with mindfulness-based and other therapies suggest that psychodynamic change often manifests through gradual improvements in psychological flexibility and emotional insight rather than immediate cognitive restructuring (Karimi et al., 2023). Consequently, the follow-up period used in this study may not have been sufficiently long to capture the full therapeutic impact of ISTDP.

The interaction effect between time and group observed in repeated-measures analysis further supports the differential mechanisms underlying the two interventions. The significant temporal effect indicates that therapeutic processes unfolded dynamically across measurement stages, emphasizing that psychological change in psychosomatic disorders is cumulative rather than instantaneous. Emotional processing interventions appear to alter patients' relationships with pain by modifying emotional meaning-making systems. Research demonstrates that emotional awareness deficits contribute to persistent somatic symptoms because unprocessed emotions are expressed through bodily channels (Erbildim & Nweke, 2025). EFT may therefore reduce catastrophizing by restoring emotional-symbolic processing, allowing patients to reinterpret physical sensations as meaningful emotional signals rather than threatening bodily events.

The stability of EFT outcomes at follow-up is particularly noteworthy. Sustainable therapeutic change is increasingly linked to improvements in emotional resilience and cognitive emotion regulation capacities. Studies examining trauma-related cognitions have shown that modification of emotional regulation strategies mediates long-term symptom improvement (McLean et al., 2019). Similarly, resilience-based models indicate that adaptive emotion regulation enhances pain tolerance and reduces catastrophic interpretations even after treatment termination (Ying Zhou, 2024). The present findings support these models by demonstrating that emotion-focused interventions can produce enduring reductions in maladaptive pain cognition among psychosomatic patients.

The absence of significant improvement in the control group further confirms that reductions in pain catastrophizing were attributable to therapeutic intervention rather than spontaneous remission. Psychosomatic disorders often persist without targeted psychological treatment because underlying emotional conflicts and maladaptive regulation patterns remain unresolved. Research consistently shows that psychological interventions addressing emotional processes are essential components of effective pain management (Ebrahimkhani et al., 2024). Cognitive therapy studies similarly report reductions in catastrophizing when emotional and cognitive mechanisms are simultaneously targeted, reinforcing the importance of integrated therapeutic approaches.

From a broader clinical perspective, the findings highlight the centrality of emotion in psychosomatic pathology. Family and interpersonal emotional environments significantly influence psychological functioning and maladaptive coping patterns (Hadadian et al., 2020). Emotion-based therapeutic models implemented in psychosomatic populations have successfully improved emotional differentiation and reduced alexithymia, suggesting that enhancing emotional competence directly affects somatic symptom experience (Ghanavati et al., 2025; Ghavanati et al., 2025). Furthermore, predictive studies demonstrate that resilience, mindfulness, and positive emotions play mediating roles in reducing pain catastrophizing, emphasizing emotional processing as a key therapeutic target (Mir Ahmadi et al., 2022). The present results therefore contribute to an expanding body of literature supporting emotion-centered psychotherapy as an effective intervention for psychosomatic disorders.

5. Conclusion

Taken together, the study findings suggest that although both psychodynamic and emotion-focused approaches are theoretically grounded in emotional change, EFT may produce faster and more observable reductions in maladaptive pain cognition due to its direct experiential techniques. ISTDP, while clinically valuable, may require extended therapeutic engagement to achieve comparable

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cognitive outcomes. The results underscore the importance of tailoring psychological interventions to the mechanisms most strongly associated with psychosomatic symptoms, particularly emotional awareness, emotional regulation, and experiential processing.

The study had several limitations. The relatively small sample size limited statistical power and may have reduced the likelihood of detecting significant effects for the psychodynamic intervention. Participants were recruited from a single psychiatric hospital, which restricts generalizability to broader clinical populations. Reliance on self-report questionnaires may have introduced response bias and subjective interpretation of symptoms. Additionally, therapist effects and individual differences in treatment adherence were not fully controlled, and the follow-up period was relatively short for evaluating long-term psychodynamic change.

Future research should employ larger multicenter samples to enhance external validity and statistical sensitivity. Longitudinal designs with extended follow-up periods are recommended to evaluate the delayed effects of psychodynamic interventions. Future studies may also examine mediating variables such as emotional awareness, attachment style, and defense mechanisms to clarify mechanisms of change. Comparing combined or integrative treatment models incorporating both emotion-focused and psychodynamic elements may further advance clinical understanding. The use of physiological or behavioral measures alongside self-report assessments would provide more comprehensive evaluation of treatment outcomes.

From a practical standpoint, clinicians working with psychosomatic patients should prioritize interventions that enhance emotional awareness and emotion regulation capacities. Incorporating emotion-focused techniques into clinical practice may help reduce catastrophic thinking patterns and improve coping with chronic pain. Mental health services may benefit from interdisciplinary collaboration integrating psychotherapy with medical care for psychosomatic conditions. Training programs for therapists should emphasize emotional processing skills and experiential therapeutic techniques. Finally, early psychological intervention targeting emotional dysregulation may prevent escalation of psychosomatic symptoms and improve long-term patient functioning.

Authors' Contributions

Authors equally contributed to this article.

Declaration

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

Transparency Statement

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

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