

A Comparison of the Effectiveness of Short-Term Psychodynamic Psychotherapy and Cognitive-Behavioral Therapy on Health Anxiety and Differentiation of Self in Patients with Coronary Artery Disease in Hamadan City

Mehdi. Ebrahimkhani¹, Hasan. Rezaei Jamolouei^{2*}, Saeed. Ariapooran³, Abolghasem. Yaghoobi⁴

¹ PhD Student, Department of Health Psychology, Na.C., Islamic Azad University, Najafabad, Iran

² Associate Professor Department of Health Psychology, Na.C., Islamic Azad University, Najafabad, Iran

³ Associate Professor, Department of Psychology, Faculty of Literature and Humanities, Malayer University, Malayer, Iran

⁴ Professor, Department of Psychology, Faculty of Economics and Social Sciences, Bu-Ali Sina University, Hamedan, Iran

* Corresponding author email address: h.rezayi2@iau.ac.ir

Article Info

Article type:

Original Research

How to cite this article:

Ebrahimkhani, M., Rezaei Jamolouei, H., Ariapooran, S., & Yaghoobi, A. (2026). A Comparison of the Effectiveness of Short-Term Psychodynamic Psychotherapy and Cognitive-Behavioral Therapy on Health Anxiety and Differentiation of Self in Patients with Coronary Artery Disease in Hamadan City. *Journal of Assessment and Research in Applied Counseling*, 8(1), 1-10. <http://dx.doi.org/10.61838/kman.jarac.4143>



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ABSTRACT

Objective: This study aimed to compare the effectiveness of short-term psychodynamic psychotherapy and cognitive-behavioral therapy in reducing health anxiety and improving self-differentiation in patients with coronary artery disease in Hamadan.

Methods and Materials: A semi-experimental research design with a pretest-posttest format and control group was used. The statistical population included all coronary artery disease patients aged 35 to 55 referred to Farshchian Hospital in 2024. Forty-five eligible participants were selected through convenience sampling and randomly assigned to two intervention groups (short-term psychodynamic psychotherapy and cognitive-behavioral therapy) and one control group (n = 15 per group). Both interventions were delivered in group format over 12 sessions within 90 days. Data were collected using the Health Anxiety Inventory (Salkovskis et al., 2002) and the Differentiation of Self Inventory (Skowron & Friedlander, 1998). Data analysis was conducted using univariate ANCOVA and Bonferroni post hoc tests in SPSS version 25, with assumptions confirmed prior to analysis.

Findings: ANCOVA results showed that both psychotherapeutic interventions significantly reduced health anxiety compared to the control group ($p < 0.05$), with no significant difference between the two treatment groups. For self-differentiation, significant differences were found among all three groups, with the psychodynamic group showing significantly higher gains than both the cognitive-behavioral and control groups ($p < 0.001$). Similar patterns were observed across subscales, including emotional reactivity, I-position, emotional cutoff, and fusion with others, where the psychodynamic approach demonstrated greater effect sizes.

Conclusion: Both short-term psychodynamic psychotherapy and cognitive-behavioral therapy are effective in reducing health anxiety in cardiac patients; however, the psychodynamic approach appears superior in enhancing deeper psychological constructs such as self-differentiation. These findings highlight the importance of addressing both symptom reduction and personality development in psychosomatic treatment planning.

Keywords: Health anxiety, self-differentiation, coronary artery disease, short-term psychodynamic psychotherapy, cognitive-behavioral therapy

1. Introduction

Health anxiety, a pervasive psychological concern marked by excessive preoccupation with having or developing a serious illness, often persists even in the presence of medical reassurance. It is a condition that exerts significant psychological and somatic strain on affected individuals, particularly those with chronic physical conditions such as coronary artery disease (CAD) (Axelsson & Hedman-Lagerlöf, 2019; Tyrer et al., 2015). Patients with CAD are especially vulnerable to health-related anxieties due to the life-threatening nature of their illness and the constant monitoring of physical symptoms, which can intensify cognitive misinterpretations and emotional distress (Iri et al., 2019; Jafari et al., 2024). The manifestation of health anxiety in these individuals is not only a psychological burden but may also contribute to poor cardiac outcomes through elevated stress reactivity and reduced treatment adherence (Bahramipour Isfahani & Hosseini, 2021; Owens et al., 2019).

One essential psychological construct relevant to understanding health anxiety and treatment responsiveness in CAD patients is self-differentiation. Originating from Bowenian family systems theory, self-differentiation refers to an individual's ability to maintain their sense of self while staying emotionally connected with others. Low levels of self-differentiation have been associated with increased emotional reactivity, dependency, and impaired coping under stress—traits commonly found in patients with health anxiety (Kahrezi et al., 2021; Rahimzadegan & Atadokht, 2020). Psychological interventions that promote emotional regulation and insight are thus crucial for enhancing differentiation and reducing maladaptive anxiety responses in clinical populations.

Among psychotherapeutic approaches, cognitive-behavioral therapy (CBT) has emerged as a frontline treatment for health anxiety. Its structured, evidence-based techniques help patients identify and challenge dysfunctional health-related beliefs, reduce safety-seeking behaviors, and promote adaptive coping strategies (Axelsson & Hedman-Lagerlöf, 2019; Melehin, 2023). CBT has shown

promising outcomes across diverse populations, including patients with chronic illnesses, by helping them reframe catastrophic misinterpretations of bodily sensations and develop more realistic health perceptions (Malins et al., 2019; Rezaei et al., 2018). In cardiovascular patients, CBT-based group interventions have demonstrated efficacy in reducing anxiety symptoms, improving quality of life, and enhancing treatment compliance (Bahramipour Isfahani & Hosseini, 2021; Owens et al., 2019). Moreover, studies confirm its impact on psychological constructs such as emotional regulation and behavioral flexibility, indirectly supporting improved self-differentiation (Kahrezi et al., 2021; Zamani Far et al., 2022).

Parallel to CBT, intensive short-term dynamic psychotherapy (ISTDP) has gained increasing recognition for its effectiveness in treating anxiety disorders, especially in patients with persistent or somatization-based presentations (Jafari et al., 2024; Rocco et al., 2021). Rooted in psychodynamic theory, ISTDP focuses on resolving unconscious emotional conflicts by breaking down patients' defenses, regulating anxiety, and facilitating the experience of previously repressed affective states (Dehghani et al., 2011; Jarare & Etemadi, 2007). This approach is particularly relevant for individuals whose anxiety stems from unresolved relational trauma or attachment-related conflicts—a profile frequently observed in CAD patients with chronic anxiety (Kashefi et al., 2023; Mahdavi et al., 2019). The efficacy of ISTDP in targeting deep-seated emotional dynamics makes it uniquely suited for fostering self-differentiation and promoting intrapsychic integration (Nabizadeh et al., 2019; Nakhaei Moghadam et al., 2024).

Several empirical investigations have examined the comparative effectiveness of CBT and ISTDP in addressing health anxiety. For example, Axelsson and Hedman-Lagerlöf's meta-analysis demonstrated that CBT significantly reduces health anxiety and is cost-effective in both individual and digital formats (Axelsson & Hedman-Lagerlöf, 2019). Meanwhile, ISTDP has shown robust outcomes in reducing not only anxiety symptoms but also defense mechanisms and interpersonal dysfunction,

especially in medically ill populations (Jafari et al., 2024; Rocco et al., 2021). Furthermore, studies have highlighted the role of ISTDP in enhancing self-awareness and emotional regulation, which are central to self-differentiation (Kashefi et al., 2023; Nabizadeh et al., 2019). While CBT aims to restructure maladaptive cognitions and teach coping skills, ISTDP focuses on dismantling emotional defenses and facilitating deeper emotional processing—a mechanism thought to have a more profound and lasting impact on personality organization (Jahangasht Aghkand et al., 2021; Mahdavi et al., 2019).

Despite the empirical support for both approaches, there is limited comparative research examining their specific effects on both health anxiety and self-differentiation in cardiac populations. Existing studies have either focused solely on symptom reduction (Bahramipour Isfahani & Hosseini, 2021; Rezaei et al., 2018), or addressed broader psychopathological outcomes without assessing underlying psychological structures such as differentiation of self. For instance, Taghavi et al. demonstrated the effectiveness of short-term dynamic psychotherapy in reducing anxiety and increasing happiness in women with generalized anxiety disorder (Taghavi et al., 2019), but did not assess differentiation as a therapeutic outcome. Similarly, Owens and colleagues found CBT to be effective in reducing health anxiety within transdiagnostic treatment programs, yet individual differences in self-regulatory capacities remained unexamined (Owens et al., 2019).

Self-differentiation is particularly relevant in cardiac patients, as emotional reactivity and fusion with others can exacerbate physical symptoms and hinder recovery. Higher differentiation is associated with greater autonomy, emotional clarity, and better decision-making in health contexts (Rahimzadegan & Atadokht, 2020; Zamani Far et al., 2022). Therefore, evaluating psychotherapeutic interventions on their capacity to enhance self-differentiation offers a richer understanding of patient change beyond symptom relief. In this regard, both CBT and ISTDP may contribute to differentiation through different therapeutic pathways—CBT by strengthening cognitive control and behavioral self-efficacy, and ISTDP by cultivating emotional depth and intrapsychic integration (Kahrezi et al., 2021; Kashefi et al., 2023).

Furthermore, the role of group-based delivery formats warrants attention. Group psychotherapy offers opportunities for emotional learning, peer feedback, and interpersonal exposure—all of which are mechanisms that can enhance both anxiety reduction and differentiation

(Kahrezi et al., 2021; Kahrizi et al., 2021). While CBT groups provide structured cognitive skill-building, psychodynamic groups facilitate spontaneous emotional expression and relational insight. Comparative research in group therapy formats can clarify which mechanisms of change are most relevant for clinical gains in heart patients.

To address this gap, the present study aimed to compare the effectiveness of short-term psychodynamic group therapy and cognitive-behavioral group therapy on health anxiety and self-differentiation in patients with coronary artery disease.

2. Methods and Materials

2.1. Study Design and Participants

This study employed an applied research design using a semi-experimental method with a pretest-posttest structure and included both experimental and control groups. The target population consisted of patients aged between 35 and 55 years diagnosed with coronary artery disease (CAD) who were referred to Farshchian Hospital in Hamadan during the year 2024. A convenience sampling method was applied, wherein patients meeting the diagnostic criteria were identified and invited to participate voluntarily. Informed consent forms were distributed among potential participants. Based on inclusion and exclusion criteria, a total of 45 eligible individuals were selected and randomly assigned to two experimental groups and one control group, with 15 participants in each. The inclusion criteria comprised a formal diagnosis of coronary artery disease according to World Health Organization standards by a certified cardiologist, education level of at least junior high school, age between 35 and 55 years, ability and willingness to participate in group therapy sessions, and overall cooperation. The exclusion criteria included missing more than two intervention sessions, unwillingness to continue participation, failure to complete homework assignments, or unforeseen incidents interrupting participation.

2.2. Measures

2.2.1. Differentiation of Self

The Differentiation of Self Inventory (DSI) was used to measure participants' levels of psychological differentiation. This 43-item questionnaire, developed by Skowron and Friedlander (1998), assesses four key components: Emotional Reactivity (ER), I-Position (IP), Emotional Cutoff (EC), and Fusion with Others (FO). Responses are

rated on a six-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree), with total possible scores ranging from 43 to 258. The revised form of this instrument demonstrated high internal consistency in prior research: Skowron and Smith (2003) reported a Cronbach's alpha of 0.92 for the overall scale, with subscale alphas of 0.86 for Fusion with Others, 0.89 for Emotional Reactivity, 0.81 for I-Position, and 0.84 for Emotional Cutoff. In Iranian validation studies, Younesi (2009) reported an overall reliability coefficient of 0.85, with subscale reliability ranging from 0.60 to 0.77, while Aryamanesh, Fallahchai, and Zarei (2013) confirmed reliability levels between 0.81 and 0.84.

2.2.2. *Health Anxiety*

The Health Anxiety Inventory (HAI) was employed to assess participants' levels of health-related anxiety. Developed by Salkovskis, Rimes, Warwick, and Clark in 2002, this self-report instrument contains 18 items, each with four response options scored from 0 to 3. Total scores range from 0 to 54, with higher scores indicating greater health anxiety. The original developers reported test-retest reliability of 0.90 and Cronbach's alpha of 0.80. In Iran, Nargesi and colleagues (2017) validated the tool and reported an overall Cronbach's alpha of 0.75, with subscale reliabilities for health-related worry adaptation, disease likelihood, and disease consequences reported as 0.59, 0.60, and 0.70, respectively.

2.3. *Interventions*

The short-term psychodynamic group therapy intervention was based on the standardized therapeutic protocol developed by Rutan, Shay, and colleagues (2014), with no modifications made by the researcher to its content. The intervention consisted of 12 sessions, each lasting 2 hours, held twice a week over a 90-day period. The initial session was dedicated to establishing group norms and rules, clarifying the duration of the treatment, setting group agreements, and allowing members to introduce themselves and share their reasons for joining the group. Sessions two through seven focused on core psychodynamic processes, including working through patients' resistance to emotional closeness with the therapist and other group members—such as fears of invasion of personal boundaries—and identifying and clarifying defense mechanisms that patients use to avoid anxiety and emotional experiences. These sessions also included exploration and regulation of anxiety, recognition

and processing of emotions within the group, and fostering emotional awareness. Sessions eight through twelve emphasized the development of intrapsychic insight, a central goal of psychodynamic group therapy, and allowed participants to reflect on their internal conflicts and dynamics. These final sessions also included a comprehensive review of therapeutic progress, group termination work, and administration of the posttest assessment.

The cognitive-behavioral therapy intervention (CHD-CBGI) followed a structured program consisting of 12 group sessions, each lasting 90 minutes, held twice a week over the span of 90 days. This intervention adhered to a standardized cognitive-behavioral group therapy framework, with each session including review of homework (10 minutes), recap of the previous session (5 minutes), presentation and practice of the first topic (30 minutes), a short break (5 minutes), presentation and practice of the second topic (30 minutes), summarization and wrap-up (5 minutes), and assignment of the next session's homework (5 minutes). The content of the sessions was carefully tailored to the needs of patients with coronary artery disease (CHD). The first session involved participant introductions, program orientation, and a medical overview of CHD provided by a cardiologist. The second session addressed CHD risk factors and strategies for prevention and control, again led by a cardiologist. The third session focused on the role of nutrition and physical activity in managing CHD, facilitated by experts in sports and nutrition. The fourth session covered the personal impact of CHD and recognition of symptom patterns. Sessions five and six introduced cognitive-behavioral strategies for coping with CHD, including symptom reduction techniques. The seventh and eighth sessions dealt with Type A behavioral patterns and their relationship to CHD, emphasizing identification of negative thought patterns, the A-B-C model of emotions, and strategies for managing anger. The ninth and tenth sessions revisited CHD symptomology and introduced cognitive and physical methods for symptom management, such as exercise and progressive muscle relaxation. The eleventh session focused on behavioral strategies, social support, spirituality, and religiosity as buffers against CHD symptoms. Finally, the twelfth session involved program summary, collection of participant feedback, scheduling of follow-up sessions, and a closing ceremony.

2.4. Data analysis

To analyze the collected data, the researchers employed univariate analysis of covariance (ANCOVA) to assess the effectiveness of the interventions while controlling for pretest scores. Following the main analysis, Bonferroni post hoc tests were used to identify significant differences between the experimental and control groups. All statistical analyses were conducted using SPSS version 25. The analysis focused on assessing posttest differences in health anxiety and differentiation of self, adjusting for baseline measures, to determine the relative effectiveness of short-term psychodynamic therapy and cognitive-behavioral therapy.

3. Findings and Results

The descriptive statistics for pretest and posttest scores across the three groups—psychodynamic, cognitive-behavioral (CBT), and control—reveal notable differences.

For health anxiety, both experimental groups showed a decrease in mean scores from pretest to posttest, with the psychodynamic group decreasing from 41.93 (SD = 5.29) to 33.90 (SD = 4.96), and the CBT group from 42.20 (SD = 5.10) to 34.53 (SD = 5.45), while the control group remained relatively unchanged. In the differentiation of self measure, there was a marked increase in scores for the psychodynamic group from 91.13 (SD = 11.70) to 115.33 (SD = 12.66), and a more moderate increase in the CBT group from 89.53 (SD = 14.46) to 101.53 (SD = 10.05). The control group showed a small increase. Similar trends were observed across all subscales of differentiation: emotional reactivity, I-position, emotional cutoff, and fusion with others. Both psychodynamic and CBT interventions led to improved posttest scores, while the control group showed minimal changes. These preliminary results suggest the potential effectiveness of both treatment modalities in reducing health anxiety and enhancing psychological differentiation in patients with coronary artery disease (Table 1).

Table 1

Descriptive Statistics for Health Anxiety, Differentiation of Self, and Subscales Across Groups and Timepoints

Variable	Time	Group	Mean	SD
Health Anxiety	Pretest	Psychodynamic	41.93	5.29
		CBT	42.20	5.10
		Control	39.53	3.88
	Posttest	Psychodynamic	33.90	4.96
		CBT	34.53	5.45
		Control	39.63	5.07
Differentiation of Self	Pretest	Psychodynamic	91.13	11.70
		CBT	89.53	14.46
		Control	91.80	9.86
	Posttest	Psychodynamic	115.33	12.66
		CBT	101.53	10.05
		Control	94.33	14.19
Emotional Reactivity	Pretest	Psychodynamic	22.33	4.89
		CBT	24.66	5.12
		Control	22.46	3.48
	Posttest	Psychodynamic	27.73	5.53
		CBT	27.06	3.55
		Control	24.75	4.51
I-Position	Pretest	Psychodynamic	23.06	2.81
		CBT	20.66	2.84
		Control	22.01	2.75
	Posttest	Psychodynamic	28.93	4.30
		CBT	24.46	3.87
		Control	23.02	2.95
Emotional Cutoff	Pretest	Psychodynamic	25.53	4.50
		CBT	25.66	5.93
		Control	26.26	4.31
	Posttest	Psychodynamic	32.80	5.47
		CBT	28.60	2.99
		Control	25.60	5.05
Fusion with Others	Pretest	Psychodynamic	20.20	2.48

	CBT	18.53	3.27
	Control	21.06	3.17
	Psychodynamic	25.86	4.53
	CBT	21.40	2.97
	Control	21.01	3.18

Before conducting the ANCOVA analyses, all relevant statistical assumptions were thoroughly examined and met. The assumption of normality was assessed using the Shapiro-Wilk test and inspection of Q-Q plots, which indicated that the distribution of residuals was approximately normal for all dependent variables. Homogeneity of variances was confirmed using Levene's test, which yielded non-significant results for all variables, indicating equal error variances across groups. Additionally,

the assumption of homogeneity of regression slopes was tested and met, ensuring that the relationship between the covariate (pretest scores) and the dependent variable (posttest scores) was consistent across groups. Furthermore, the assumption of linearity and independence of observations was verified based on study design and scatterplot analyses. Collectively, these checks validated the suitability of ANCOVA for analyzing the data.

Table 2

Results of One-Way ANCOVA for Health Anxiety, Differentiation of Self, and Its Subscales

Variable	Source	SS	df	MS	F	p-value	η^2
Health Anxiety	Pretest	35.172	1	35.172	1.417	0.244	0.050
	Group	278.900	1	278.900	11.237	0.002	0.294
	Error	670.161	27	24.821			
Differentiation	Pretest	1649.880	1	1649.880	3.424	0.071	0.077
	Group	3454.602	1	3454.602	27.315	0.001	0.503
	Error	3414.787	27	126.474			
Emotional Reactivity	Pretest	135.082	1	135.082	6.302	0.018	0.189
	Group	70.620	2	70.620	3.294	0.081	0.109
	Error	578.785	41	21.436			
I-Position	Pretest	1.343	1	1.343	0.096	0.760	0.004
	Group	246.905	2	246.905	17.562	0.001	0.394
	Error	379.591	41	14.059			
Emotional Cutoff	Pretest	191.784	1	191.784	3.775	0.059	0.084
	Group	434.003	2	434.003	19.989	0.001	0.425
	Error	586.216	41	21.712			
Fusion with Others	Pretest	75.950	1	75.950	2.116	0.153	0.049
	Group	210.859	2	210.859	16.092	0.001	0.373
	Error	353.783	41	13.103			

The results of the one-way ANCOVA indicated that, after controlling for pretest scores, there was a statistically significant effect of group membership on health anxiety scores ($F = 11.237$, $p = 0.002$, $\eta^2 = 0.294$). Similarly, a significant group effect was observed for differentiation of self ($F = 27.315$, $p = 0.001$, $\eta^2 = 0.503$), I-position ($F = 17.562$, $p = 0.001$, $\eta^2 = 0.394$), emotional cutoff ($F = 19.989$, $p = 0.001$, $\eta^2 = 0.425$), and fusion with others ($F = 16.092$, p

$= 0.001$, $\eta^2 = 0.373$). However, while emotional reactivity showed a trend toward significance ($F = 3.294$, $p = 0.081$, $\eta^2 = 0.109$), it did not reach the conventional threshold for statistical significance. These findings suggest that both intervention methods had a statistically significant impact on several psychological dimensions relevant to coronary heart disease patients, with the psychodynamic approach generally showing stronger effects (Table 2).

Table 3

Bonferroni Post Hoc Pairwise Comparisons

Variable	Comparison	Mean Difference	p-value
Health Anxiety	Psychodynamic – Control	-6.034	0.010
	CBT – Control	-5.434	0.024

Differentiation	CBT – Psychodynamic	0.600	0.995
	Psychodynamic – Control	21.189	0.001
	CBT – Control	7.843	0.251
Emotional Reactivity	CBT – Psychodynamic	-13.346	0.013
	Psychodynamic – Control	3.033	0.219
	CBT – Control	1.782	0.887
I-Position	CBT – Psychodynamic	-1.251	0.995
	Psychodynamic – Control	5.558	0.001
	CBT – Control	1.533	0.853
Emotional Cutoff	CBT – Psychodynamic	-4.347	0.016
	Psychodynamic – Control	7.399	0.001
	CBT – Control	3.163	0.183
Fusion with Others	CBT – Psychodynamic	-4.236	0.040
	Psychodynamic – Control	5.099	0.001
	CBT – Control	1.080	0.995
	CBT – Psychodynamic	-4.019	0.014

Bonferroni post hoc comparisons revealed that for health anxiety, both the psychodynamic ($p = 0.010$) and cognitive-behavioral ($p = 0.024$) therapies significantly reduced symptoms compared to the control group, with no significant difference between the two treatment groups. In terms of differentiation of self, the psychodynamic group significantly outperformed both the control ($p = 0.001$) and the CBT group ($p = 0.013$), indicating superior effectiveness. For I-position, emotional cutoff, and fusion with others, psychodynamic therapy again led to significantly higher improvements compared to the CBT and control groups. The CBT group showed improvements but was significantly less effective than psychodynamic therapy on these dimensions. No statistically significant differences were found for emotional reactivity, although the psychodynamic group had the highest numerical gain. These results highlight the broader psychological benefits of short-term psychodynamic therapy, particularly in enhancing self-differentiation components (Table 3).

4. Discussion and Conclusion

The purpose of this study was to compare the effectiveness of short-term psychodynamic psychotherapy and cognitive-behavioral therapy on health anxiety and self-differentiation in patients with coronary artery disease. The findings revealed significant differences between the treatment groups and the control group in terms of post-intervention scores on health anxiety, differentiation of self, and most of its subcomponents, confirming the efficacy of both therapeutic approaches. Notably, the short-term psychodynamic psychotherapy group showed superior outcomes compared to the cognitive-behavioral group in enhancing self-differentiation and reducing emotional fusion

and emotional cutoff, while both groups significantly outperformed the control group in reducing health anxiety.

In terms of health anxiety, both psychotherapeutic methods led to statistically significant reductions compared to the control group, with no significant difference between the two active treatments. This suggests that both interventions are comparably effective in alleviating health-related anxiety symptoms among cardiac patients. These findings are consistent with prior research indicating the robust efficacy of cognitive-behavioral therapy in reducing health anxiety through cognitive restructuring and exposure-based techniques (Axelsson & Hedman-Lagerlöf, 2019; Rezaei et al., 2018). Cognitive-behavioral therapy equips patients with strategies to reappraise catastrophic misinterpretations of somatic symptoms, which is especially relevant in populations with physical illnesses such as coronary artery disease (Melehin, 2023; Owens et al., 2019). On the other hand, short-term psychodynamic psychotherapy appears to exert its influence through emotion-focused mechanisms, including the resolution of unconscious conflicts and the breakdown of maladaptive defense mechanisms that fuel persistent anxiety (Dehghani et al., 2011; Jafari et al., 2024). The convergence of efficacy in both approaches underscores the role of anxiety regulation in cardiac rehabilitation and psychological adjustment.

When evaluating the results on self-differentiation and its subdimensions, the short-term psychodynamic group demonstrated significantly greater improvements compared to both the cognitive-behavioral and control groups. This finding highlights the psychodynamic model's deeper engagement with personality structure, emotional awareness, and interpersonal functioning. ISTDP, by targeting core affective conflicts and promoting insight into relational dynamics, is well-positioned to influence

constructs like self-differentiation (Kashefi et al., 2023; Nabizadeh et al., 2019). Prior evidence supports this mechanism of change: studies have shown that intensive short-term dynamic psychotherapy enhances emotional processing, reduces defensive rigidity, and improves self-coherence, which are closely related to the components of differentiation such as emotional reactivity and fusion with others (Jahangasht Aghkand et al., 2021; Nakhaei Moghadam et al., 2024). The current study aligns with these results, confirming the psychodynamic modality's advantage in fostering structural psychological growth.

In contrast, the cognitive-behavioral intervention was effective in improving self-differentiation but to a lesser extent than the psychodynamic approach. While CBT primarily focuses on modifying cognitive distortions and promoting behavioral change, its impact on deep-seated emotional processes and relational schemas is relatively limited (Kahrezi et al., 2021; Zamani Far et al., 2022). Nonetheless, the observed improvements in self-differentiation within the CBT group could be attributed to increased self-efficacy, improved cognitive flexibility, and the reduction of health-related anxiety, which indirectly contribute to greater emotional independence and self-definition (Owens et al., 2019; Rahimzadegan & Atadokht, 2020). Prior studies have similarly shown moderate effects of CBT on differentiation, especially in populations dealing with interpersonal stressors or somatic concerns (Malins et al., 2019; Taghavi et al., 2019).

Among the subcomponents of self-differentiation, including emotional reactivity, I-position, emotional cutoff, and fusion with others, the psychodynamic group showed significant gains across all domains, with particularly strong effects on I-position and emotional cutoff. These components reflect one's ability to maintain autonomy while remaining emotionally connected in intimate relationships—capacities often compromised in individuals with chronic illness and associated anxiety (Kahrizi et al., 2021; Mahdavi et al., 2019). ISTDP's emphasis on facilitating emotional expression, confronting resistance, and working through relational patterns may explain its unique potency in these areas (Kashefi et al., 2023; Rocco et al., 2021). In contrast, while the CBT group improved significantly on I-position and emotional reactivity, its effects on emotional cutoff and fusion with others were more limited, reinforcing the notion that deeper personality reorganization may require affect-focused methods.

The findings also reflect broader discussions in the literature concerning the relative strengths of cognitive-

behavioral and psychodynamic interventions. While CBT has been lauded for its scalability, structure, and short-term efficiency, psychodynamic therapy offers enduring personality-level change through exploration of unconscious processes and emotional restructuring (Axelsson & Hedman-Lagerlöf, 2019; Jafari et al., 2024). For populations such as patients with coronary artery disease, who often carry unresolved emotional burdens alongside somatic vulnerability, interventions that address both surface-level symptoms and underlying psychological patterns may offer comprehensive benefits (Bahramipour Isfahani & Hosseini, 2021; Nabizadeh et al., 2019).

Importantly, this study contributes to the emerging body of literature supporting the use of group psychotherapy in medical settings. Both therapeutic approaches were delivered in group formats, providing opportunities for peer modeling, interpersonal feedback, and social learning. Group settings may amplify the effectiveness of interventions targeting self-differentiation, as participants are exposed to relational dynamics that mirror real-life challenges (Kahrezi et al., 2021; Kahrizi et al., 2021). Moreover, the therapeutic alliance in group settings, when facilitated effectively, can create a secure environment for emotional exploration, self-disclosure, and cognitive restructuring—processes central to both CBT and ISTDP paradigms.

Overall, the results underscore the viability of both short-term psychodynamic and cognitive-behavioral approaches in managing psychological challenges associated with coronary artery disease, while highlighting the psychodynamic modality's unique role in enhancing deeper psychological resilience. By addressing both the overt symptoms of health anxiety and the underlying emotional processes reflected in self-differentiation, psychodynamic therapy appears particularly suitable for patients whose psychological difficulties are rooted in relational patterns and emotional suppression.

5. Limitations & Suggestions

Despite its valuable contributions, the present study is not without limitations. First, the sample size was relatively small and limited to a single hospital, which may restrict the generalizability of the findings to broader populations. Second, while random assignment was implemented, the use of convenience sampling for initial participant recruitment may introduce selection bias. Third, the study relied solely on self-report questionnaires, which, although validated, are

susceptible to social desirability and reporting biases. Furthermore, the short-term follow-up precludes conclusions about the long-term maintenance of treatment gains. Another limitation is the absence of physiological measures that could complement the psychological assessments and provide a more comprehensive picture of therapeutic outcomes in cardiac patients.

Future research should consider larger, multisite randomized controlled trials to enhance the external validity of findings and allow for more robust subgroup analyses. Including longitudinal follow-up assessments would provide insight into the durability of intervention effects over time. Researchers are also encouraged to incorporate objective physiological indicators such as heart rate variability or cortisol levels to assess the biopsychosocial impact of psychotherapy in medical populations. Additionally, qualitative methodologies such as in-depth interviews or session transcripts could offer richer insights into patients' lived experiences and mechanisms of change. Finally, studies comparing hybrid models that integrate cognitive-behavioral and psychodynamic elements may yield innovative frameworks that harness the strengths of both paradigms.

Given the results of this study, clinicians working with patients suffering from coronary artery disease should consider incorporating structured psychotherapeutic interventions as part of routine care. While CBT remains a highly effective and accessible modality, integrating psychodynamic group therapy may offer added value, particularly for patients with complex emotional histories and interpersonal difficulties. Healthcare providers are encouraged to establish multidisciplinary collaborations that include mental health professionals trained in both therapeutic approaches. Developing accessible group formats in hospital and community settings can optimize resource use and foster peer support. Lastly, emphasizing psychological resilience and self-differentiation as core therapeutic goals may enhance not only mental health outcomes but also patients' engagement with medical treatment and overall quality of life.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

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.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

All authors equally contributed in this article.

References

- Axelsson, E., & Hedman-Lagerlöf, E. (2019). Cognitive behavior therapy for health anxiety: systematic review and meta-analysis of clinical efficacy and health economic outcomes. *Expert Review of Pharmacoeconomics & Outcomes Research*, 19(6), 663-676.
- Bahramipour Isfahani, M., & Hosseini, S. F. (2021). Trauma-focused cognitive behavioral therapy on health anxiety and sexual behavior issues in children affected by sexual trauma. Eighth Congress of the Iranian Psychological Association.
- Dehghani, M., Atef-Vahid, M. K., & Gharaee, B. (2011). Efficacy of short-term anxiety-regulating psychotherapy on love trauma syndrome. *Iran J Psychiatry Behav Sci*, 5(2), 18-25. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3939962/>
- Iri, H., Makvandi, B., Bakhtiarpour, S., & Hafezi, F. (2019). Comparison of the effectiveness of Acceptance and Commitment Therapy and Dialectical Behavioral Therapy on health anxiety, psychosocial adjustment and cognitive emotion regulation of divorced women. *medical journal of mashhad university of medical sciences*, 61(supplement1), 79-88. <https://doi.org/10.22038/mjms.2019.13786>
- Jafari, S., Kazemian Moghadam, K., & Gholavand, F. (2024). The Effectiveness of Intensive Short-Term Dynamic Psychotherapy (ISTDP) on Depression, Health Anxiety, and Physical Symptoms in Patients with Coronary Artery Bypass. *Research in Clinical Psychology and Counseling*, 14(1), 223-242. https://tpccp.um.ac.ir/article_45804.html
- Jahangasht Aghkand, Y., Abbasi, G., & Hasanzadeh, R. (2021). The Effects of Intensive Short-Term Dynamic Psychotherapy on Interpersonal Problems in Women with Social Anxiety [Original Research Article]. *Middle Eastern Journal of Disability Studies*---, 11(0), 169-169. <http://jdisabilstud.org/article-1-2140-en.html>
- Jarare, j., & Etemadi, a. (2007). Comparison of the effectiveness of intensive short-term dynamic psychotherapy (ISTDP) with relationship couple therapy (RCT) on enhancing couples mental health and marital satisfaction. *Educational*

- Psychology, 3(7), 1-26.
<https://doi.org/10.22054/jep.2007.6001>
- Kahrezi, S., Dookanei Fard, F., & Behboodi, M. (2021). Comparing the Effectiveness of Group Counseling Concepts Based on Cognitive-Behavioral and Reality Therapy Approaches on Self-Differentiation in Students. *Journal of Counseling and Psychotherapy Excellence*(39).
<https://www.sid.ir/paper/413073/en>
- Kahrizi, S., Beboodi, M., & fard, F. D. (2021). Comparison of the Effectiveness of Group Education of Premarital Counseling Concepts based on two Cognitive-Behavioral Approaches and Reality Therapy on Students' self-Differentiation. *Journal of Excellence in counseling and psychotherapy*, 39(10), 71-82.
<http://sanad.iau.ir/fa/Article/932027>
- Kashefi, F., Azkhosh, M., Khanjani, M. S., & Aghaei, H. (2023). The Effectiveness of Intensive Short-Term Dynamic Psychotherapy on Self-Differentiation and Attachment Behavior in Couple Relationships in Women with Tendency to Marital Infidelity. *Iranian Journal of Psychiatric Nursing*, 11(1), 0-0. <https://mail.ijpn.ir/article-1-2100-en.pdf>
- Mahdavi, A., Mosavimoghadam, S. R., Madani, Y., Aghaei, M., & Abedin, M. (2019). Effect of Intensive Short-term Dynamic Psychotherapy on Emotional Expressiveness and Defense Mechanisms of Women With Breast Cancer. *Archives of Breast Cancer*, 35-41.
<https://doi.org/10.32768/abc.20196135-41>
- Malins, S., Moghaddam, N., Morriss, R., & Schröder, T. (2019). Extending the Use of Routine Outcome Monitoring: Predicting Long-Term Outcomes in Cognitive Behavioral Therapy for Severe Health Anxiety. *Psychotherapy Research*, 30(5), 662-674.
<https://doi.org/10.1080/10503307.2019.1657250>
- Melehin, A. (2023). Maladaptive Health Anxiety: The Application of Remedial Remote Cognitive Behavioral Therapy. *Russian Journal of Telemedicine and E-Health*, 9(2), 29-39.
<https://doi.org/10.29188/2712-9217-2023-9-2-29-39>
- Nabizadeh, A., Farhadi, M., Rashid, K., & Kordnoghi, R. (2019). The Effectiveness of Tactical Defenses Neutralization in Intensive Short-Term Dynamic Psychotherapy on Defensive Styles, Anxiety, and Fear of Intimacy in Non-Clinical Sample. *Journal of Research in Psychological Health*, 13(1), 24-39.
https://rph.khu.ac.ir/browse.php?a_id=3442&sid=1&slc_lang=fa&ftxt=1
- Nakhaei Moghadam, R., Bahrainian, S. A., & Nasri, M. (2024). The effectiveness of intensive and short-term dynamic psychotherapy on attachment styles, somatization and health anxiety in patients with chronic pain. *Journal of Assessment and Research in Applied Counseling (JARAC)*, 6(1).
<https://journals.kmanpub.com/index.php/jarac/article/view/1287>
- Owens, V., Hadjistavropoulos, H., Schneider, L., Gullickson, K., Karin, E., Titov, N., & Dear, B. (2019). Transdiagnostic, internet-delivered cognitive behavior therapy for depression and anxiety: Exploring impact on health anxiety. *Internet Interventions*, 15.
<https://doi.org/10.1016/j.invent.2019.01.001>
- Rahimzadegan, S., & Atadokht, A. (2020). Prediction of coronavirus anxiety based on cognitive flexibility and self-differentiation in patients with obsessive-compulsive disorder. *Thoughts and Behavior in Clinical Psychology*, 15(58), 27-36.
https://jtbcp.riau.ac.ir/article_2083_en.html
- Rezaei, S., Darabi, A., & Rahnedjat, A. M. (2018). The effectiveness of cognitive behavioral therapy on decreasing health anxiety. *EBNESINA*, 20(2), 61-67.
<https://ebnesina.ajau.ac.ir/article-1-542-en.html>
- Rocco, D., Calvo, V., Agrosi, V., Bergami, F., Busetto, L. M., Marin, S., Pezzetta, G., Rossi, L., Zuccotti, L., & Abbass, A. (2021). Intensive short-term dynamic psychotherapy provided by novice psychotherapists: effects on symptomatology and psychological structure in patients with anxiety disorders. *Res Psychother*, 24(1), 503.
<https://doi.org/10.4081/ripppo.2021.503>
- Taghavi, F., Mirzaie, P., Azandariani, M., & Rezaei Shojaei, S. (2019). The Effectiveness of Short-Term Dynamic Psychotherapy on Anxiety, Depression and Happiness in Women with Generalized Anxiety. *medical journal of mashhad university of medical sciences*, 62(December), 456-466. <https://doi.org/10.22038/mjms.2019.15075>
- Tyrer, H., Tyrer, P., Lisseman-Stones, Y., McAllister, S., Cooper, S., Salkovskis, P., Crawford, M. J., Dupont, S., Green, J., Murphy, D., & Wang, D. (2015). Therapist differences in a randomised trial of the outcome of cognitive behaviour therapy for health anxiety in medical patients. *International journal of nursing studies*, 52(3), 686-694.
<https://doi.org/10.1016/j.ijnurstu.2014.11.013>
- Zamani Far, M., Keshavarzi Arshadi, F., Hosseini, F., & Emami Pour, S. (2022). Comparison of the effectiveness of cognitive-behavioral couple therapy and systemic-behavioral couple therapy on intimacy and self-differentiation in couples with marital conflict. *Journal of Psychological Sciences*, 21(117), 1779-1798.
https://psychologicalscience.ir/browse.php?a_id=1622&sid=1&slc_lang=en