



Effectiveness of Schema Therapy on Psychological Distress and Self-defeating Behaviors in Women with Dependent Personality Traits: A Quasi-Experimental Study

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Abstract

Background: Schema therapy has been proposed as an integrative intervention that targets both emotional symptoms and maladaptive behavioral patterns; however, empirical evidence of its effectiveness for these outcomes remains limited.

Objectives: This study aimed to evaluate the effectiveness of a schema therapy-based intervention in reducing psychological distress and self-defeating behaviors among women with dependent personality traits.

Methods: This quasi-experimental study used a pretest-posttest design with a control group. The study population comprised women with dependent personality traits who were referred to psychological counseling centers in Rasht, Iran. A total of 34 participants were recruited through convenience sampling and assigned to an intervention group (n = 17) or a control group (n = 17). The intervention group received 8 sessions of group-based schema therapy based on the mode model, whereas the control group received no intervention. Psychological distress was assessed using the Kessler Psychological Distress Scale (K10), and self-defeating behaviors were measured using a self-report questionnaire. Data were analyzed using independent-samples t tests and effect sizes (Cohen d) in SPSS version 26.

Results: The results showed significant reductions in psychological distress and self-defeating behaviors in the intervention group compared with the control group at posttest ($P < 0.05$). Large effect sizes were observed for both psychological distress and the total self-defeating behavior score, indicating clinically meaningful improvement.

Conclusions: Schema therapy appears to be an effective intervention for reducing psychological distress and self-defeating behaviors among women with dependent personality traits. These findings support the use of schema-based interventions in mental health settings.

Keywords: Psychological Distress, Schema Therapy, Self-defeating Behaviors, Dependent Personality Traits, Mental Health

1. Background

Psychological distress is a pervasive and multifaceted construct that reflects a general state of emotional suffering and includes symptoms of anxiety, depression, and perceived stress. It is widely recognized as a critical indicator of mental health and is associated with substantial impairments in emotional, social, and occupational functioning (1-3). High levels of psychological distress are prevalent not only in clinical populations but also among individuals who do not

meet the full diagnostic criteria for psychiatric disorders, underscoring the importance of early identification and intervention.

Individuals with dependent personality traits are particularly vulnerable to psychological distress. Dependency-related characteristics, such as an excessive need for reassurance, fear of abandonment, difficulty making decisions independently, and submissive interpersonal behavior, have been consistently linked to heightened emotional vulnerability and impaired coping capacity (4, 5). Individuals with dependent

personality traits often experience chronic anxiety, emotional insecurity, and difficulty regulating negative affect, which may increase their susceptibility to psychological distress (6).

In addition to emotional symptoms, psychological distress is frequently accompanied by self-defeating behaviors. Self-defeating behaviors refer to maladaptive behavioral patterns through which individuals undermine their own goals, autonomy, or well-being, often in an attempt to cope with internal distress or interpersonal insecurity (7). These behaviors may include avoidance of responsibility, excessive compliance, procrastination, self-handicapping, and other strategies that provide short-term emotional relief while reinforcing long-term dysfunction (8).

Theoretical models rooted in cognitive-behavioral theory and self-regulation frameworks suggest that self-defeating behaviors function as maladaptive coping mechanisms designed to manage overwhelming emotions and protect fragile self-esteem (9). In individuals with dependent personality traits, these behaviors may be particularly pronounced because reliance on others and fear of rejection can foster avoidance-based coping strategies and inhibit the development of autonomous problem-solving skills (10). Over time, the persistent use of self-defeating behaviors may intensify psychological distress, creating a reciprocal and self-perpetuating cycle.

Schema theory provides a comprehensive framework for understanding the origins and maintenance of psychological distress and self-defeating behaviors. According to schema theory, early maladaptive schemas develop as a result of unmet emotional needs during childhood and shape individuals' perceptions of themselves, others, and the world (11). In individuals with dependent personality traits, schemas such as abandonment, subjugation, emotional deprivation, and incompetence are commonly activated and may give rise to maladaptive coping modes, including compliant surrender and avoidance (12, 13). These schema-driven modes are closely associated with chronic emotional distress and dysfunctional behavioral patterns.

Schema therapy, particularly when conceptualized through the mode model, integrates cognitive, experiential, behavioral, and interpersonal techniques to address emotional symptoms and maladaptive coping behaviors (14). Previous research has demonstrated the effectiveness of schema therapy in reducing symptoms of anxiety, depression, and personality-related dysfunction, especially in individuals with personality pathology or entrenched maladaptive patterns (15-17). However, despite growing

evidence supporting schema therapy, relatively few studies have specifically examined its impact on self-defeating behaviors as a multidimensional construct.

Moreover, many intervention studies have primarily focused on symptom reduction without sufficiently addressing the clinical significance of behavioral change or the mechanisms through which interventions exert their effects (18). Evaluating changes in both psychological distress and self-defeating behaviors provides a more comprehensive understanding of therapeutic outcomes and aligns with contemporary recommendations emphasizing process-based and integrative approaches to mental health treatment (19, 20).

Given the high prevalence of psychological distress among individuals with dependent personality traits, the central role of self-defeating behaviors in maintaining distress, and the theoretical relevance of schema therapy for addressing these issues, controlled intervention studies in this area are needed. Such studies are particularly important in non-Western cultural contexts, where interpersonal dependency and emotional expression may be shaped by distinct social and cultural norms (20).

2. Objectives

The present study aimed to evaluate the effectiveness of a schema therapy-based intervention in reducing psychological distress and self-defeating behaviors among women with dependent personality traits in Rasht, Iran. By examining both emotional and behavioral outcomes, this study sought to contribute to the existing literature by providing evidence supporting an integrative intervention approach grounded in schema theory and tailored to the needs of this population.

3. Methods

3.1. Study Design

This study used a quasi-experimental pretest-posttest design with a control group to examine the effectiveness of a schema therapy-based intervention for psychological distress and self-defeating behaviors. The study was conducted in Rasht, Iran, using a controlled comparative framework. Participants in both the intervention and control groups were assessed at 2 time points: before the intervention (pretest) and after completion of the intervention (posttest).

This design allowed evaluation of changes in the outcome variables over time and comparison between

the intervention and control groups, thereby facilitating assessment of the intervention's effectiveness while accounting for baseline differences. The quasi-experimental approach was selected due to practical and ethical considerations related to the study setting and population.

3.2. Participants and Sampling

The study population comprised women with symptoms of dependent personality traits who were referred to psychological counseling centers in Rasht, Iran. Participants were recruited using convenience sampling from individuals who met the eligibility criteria. A total of 34 participants were enrolled and subsequently allocated to 2 groups: an intervention group ($n = 17$) and a control group ($n = 17$).

The inclusion criteria were as follows: 1) willingness to participate and provide informed consent, 2) presence of dependent personality traits based on clinical assessment, 3) ability to attend and actively participate in group therapy sessions, and 4) absence of severe psychiatric disorders requiring immediate pharmacological or inpatient treatment. The exclusion criteria were withdrawal from the study, absence from multiple intervention sessions, or the emergence of severe psychological symptoms requiring urgent clinical intervention.

Participants in the control group did not receive any psychological intervention during the study period and were placed on a waiting list. This approach enabled comparison between the intervention and control groups while minimizing ethical concerns related to withholding treatment.

3.3. Intervention

Participants in the intervention group received group-based schema therapy grounded in the mode model, delivered over 8 structured sessions. The intervention was developed based on established schema therapy protocols and adapted to address the specific needs of individuals with dependent personality traits.

The initial sessions focused on establishing a therapeutic alliance, providing psychoeducation on early maladaptive schemas, schema modes, and unmet emotional needs, and increasing participants' awareness of their dominant coping and child modes. Subsequent sessions emphasized experiential techniques, including imagery rescripting, chair work, and role-playing, to access and modify maladaptive schemas and coping responses.

Throughout the intervention, particular attention was given to identifying and weakening maladaptive coping modes, such as compliant surrender or avoidant coping, as well as the punitive internal critic, while simultaneously strengthening the healthy adult mode. The final sessions focused on consolidating therapeutic gains, practicing adaptive interpersonal boundaries, enhancing autonomy, and facilitating the application of learned skills to everyday situations.

The intervention was delivered by a trained therapist with expertise in schema therapy. Participants in the control group did not receive any psychological treatment during the intervention period.

3.4. Demographic Questionnaire

A demographic questionnaire was administered to collect participants' background information, including age, marital status, educational level, employment status, medication use, and history of psychological treatment. These data were used to describe sample characteristics and ensure comparability between the intervention and control groups.

3.5. Kessler Psychological Distress Scale

Psychological distress was assessed using the Kessler Psychological Distress Scale (K10). The K10 is a widely used self-report instrument designed to measure nonspecific psychological distress associated with symptoms of anxiety and depression. The scale consists of 10 items, each rated on a 5-point Likert scale ranging from "none of the time" to "all of the time," with higher total scores indicating greater psychological distress. The K10 has demonstrated satisfactory psychometric properties, including good internal consistency and validity, in diverse populations.

3.6. Self-defeating Behaviors

Self-defeating behaviors were measured using a self-report questionnaire assessing maladaptive behavioral patterns. This instrument provides a total score as well as scores for multiple subscales reflecting various dimensions of self-defeating and avoidance-based behaviors. Higher scores indicate a greater tendency to engage in self-defeating behaviors. The questionnaire has been used in previous research to assess maladaptive behavioral tendencies and has demonstrated acceptable reliability.

3.7. Method of Execution

After written informed consent was obtained, all participants completed the study questionnaires during

the pretest phase under standardized conditions. Baseline assessments were conducted for both the intervention and control groups before the intervention began.

Following the pretest assessment, participants assigned to the intervention group participated in the 8-session group schema therapy program, delivered according to the predefined intervention protocol. During this period, participants in the control group did not receive any psychological treatment and continued their routine daily activities.

After completion of the intervention, all participants in both groups were reassessed during the posttest phase using the same questionnaires administered at baseline. This procedure enabled evaluation of changes in psychological distress and self-defeating behaviors attributable to the intervention.

3.8. Statistical Analysis

Data were analyzed using IBM SPSS Statistics, version 26. Descriptive statistics were computed for all variables. Independent-samples *t* tests were conducted to examine posttest differences between the intervention and control groups. Effect sizes were calculated using Cohen *d* to assess the magnitude and clinical significance of intervention effects. The level of statistical significance was set at $P < 0.05$.

4. Results

4.1. Descriptive Statistics

A total of 29 participants took part in the study, with 15 allocated to the intervention group and 14 allocated to the control group. The mean age of the participants was 26.59 years ($SD = 4.81$). Additional demographic characteristics, including marital status and educational level, are presented in [Table 1](#).

4.2. Comparisons Between Groups

To compare psychological distress between the control and intervention groups, an independent-samples *t*-test was conducted. The mean total K10 score was 32.86 ($SD = 5.97$) in the control group and 23.93 ($SD = 9.35$) in the intervention group. At the posttest assessment, the independent-samples *t*-test showed that the mean total K10 score in the intervention group was significantly lower than that in the control group by 8.92 points (95% CI, 2.89 - 14.95; $t(25) = 3.04$; $P = 0.005$). The effect size, measured using Cohen's *d*, was 1.14, indicating a large effect. The results of this comparison

are presented in [Table 2](#), and a graphical representation of group differences is shown in [Figure 1](#).

An independent-samples *t*-test was also used to compare total self-defeating behavior scores between the control and intervention groups. The mean score for self-defeating behaviors was 56.21 ($SD = 13.58$) in the control group and 37.93 ($SD = 17.91$) in the intervention group. The results indicated that the posttest mean total self-defeating behavior score was significantly lower in the intervention group than in the control group by 18.28 points (95% CI, 6.10 - 30.46; $t(25) = 3.08$; $P = 0.005$). The effect size was large ($d = 1.15$), demonstrating a substantial impact of the intervention on reducing self-defeating behaviors. Detailed results of this comparison are reported in [Table 3](#), and the corresponding graphical illustration is provided in [Figure 2](#).

To further examine the effects of the intervention, independent-samples *t* tests were conducted to compare posttest scores on the self-defeating behavior subscales between the control and intervention groups. The results showed that the posttest mean scores for the self-excusing, lack of responsibility, procrastination, gossiping, and imitation subscales were significantly lower in the intervention group than in the control group ($P = 0.011$, $P < 0.001$, $P = 0.028$, $P < 0.001$, and $P < 0.001$, respectively). The corresponding Cohen's *d* values indicated large effect sizes for these subscales. Although the mean scores for the justification and entitlement subscales were lower in the intervention group than in the control group, these differences were not statistically significant ($P = 0.059$ and $P = 0.108$, respectively). The effect sizes for these subscales were moderate. Furthermore, no statistically significant differences were observed between the 2 groups for the feelings of helplessness ($P = 0.672$) and fearfulness ($P = 0.455$) subscales. The effect sizes for these subscales were negligible and small, respectively. Detailed results for all self-defeating behavior subscales are presented in [Table 4](#) and [Figure 3](#).

5. Discussion

The present study examined the effectiveness of a schema therapy-based intervention in reducing psychological distress and self-defeating behaviors among women with dependent personality traits. Overall, the findings indicated that the intervention produced significant and clinically meaningful improvements in both emotional and behavioral outcomes. These results support the relevance of schema therapy as an integrative approach that can simultaneously address deep-rooted emotional vulnerabilities and maladaptive behavioral patterns.

Table 1. Demographic Characteristics of the Participants ^a

Variables	Total (n = 29)	Control Group (n = 14)	Intervention Group (n = 15)	t or χ^2	P-Value
Age (y)	26.59 $\pm$ 4.81	26.14 $\pm$ 5.67	27.00 $\pm$ 4.00	0.47	0.640
Marital status				0.02	0.876
Single	12 (41.4)	6 (42.9)	6 (40.0)		
Married	17 (58.6)	8 (57.1)	9 (60.0)		
Educational level				2.53	0.282
Below diploma	3 (10.3)	1 (7.1)	2 (13.3)		
Diploma to bachelor's degree	21 (72.4)	12 (85.7)	9 (60.0)		
Master's degree and above	5 (17.2)	1 (7.1)	4 (26.7)		

^a Values are expressed as mean $\pm$ SD or No. (%)

Table 2. Comparison of Psychological Distress in Post-Test Measurements Between the Control and Intervention Groups ^a

Variables	Control Group	Intervention Group	Mean Difference (95% CI)	t	P-Value	Effect Size (Cohen's d)
Total K10 score	32.86 $\pm$ 5.97	23.93 $\pm$ 9.35	8.92 (2.89, 14.95)	3.04	0.005	1.14

^a Cohen's d effect size values of 0.2 - 0.5, 0.5 - 0.8, and $<$ 0.8 indicate small, medium, and large effect sizes, respectively.

5.1. Effects of the Intervention on Psychological Distress

The findings indicated that participants who received schema therapy experienced a significant reduction in psychological distress compared with the control group. This result is consistent with previous research demonstrating the effectiveness of schema therapy in reducing symptoms of anxiety and depression, particularly among individuals with personality-related vulnerabilities (11). Schema therapy targets early maladaptive schemas that contribute to chronic emotional distress by shaping negative beliefs about the self, others, and the world (12, 13).

From a theoretical perspective, individuals with dependent personality traits often exhibit schemas related to abandonment, incompetence, and subjugation, which are associated with heightened emotional distress and impaired emotion regulation (21). By increasing awareness of these schemas and modifying maladaptive coping modes, schema therapy may enhance adaptive emotion regulation and reduce vulnerability to psychological distress. The present findings align with evidence suggesting that interventions focusing on underlying cognitive-emotional processes yield more substantial and enduring symptom reduction than symptom-focused approaches alone (22).

5.2. Effects of the Intervention on Self-defeating Behaviors

In addition to emotional outcomes, the intervention produced a significant reduction in self-defeating behaviors, with a large effect size. Self-defeating behaviors are conceptualized as maladaptive coping strategies that regulate negative emotions in the short term while perpetuating long-term dysfunction (3, 23). Previous studies have demonstrated strong associations between psychological distress and behaviors such as procrastination, avoidance of responsibility, and self-handicapping (5, 24).

Schema therapy explicitly conceptualizes these behaviors as manifestations of maladaptive coping modes. Through experiential techniques such as imagery rescripting and chair work, individuals are encouraged to recognize the emotional origins and long-term costs of these behaviors and to develop healthier alternatives (10). The substantial reduction in self-defeating behaviors observed in the present study supports prior findings indicating that schema-based interventions can effectively modify entrenched maladaptive behavioral patterns (13).

5.3. Differential Effects on Self-defeating Behavior Subscales

The results further indicated that the intervention was particularly effective in reducing specific subscales of self-defeating behaviors, including self-excusing, lack of responsibility, procrastination, gossiping, and imitation. These behaviors align closely with dependent coping modes, such as compliant surrender and

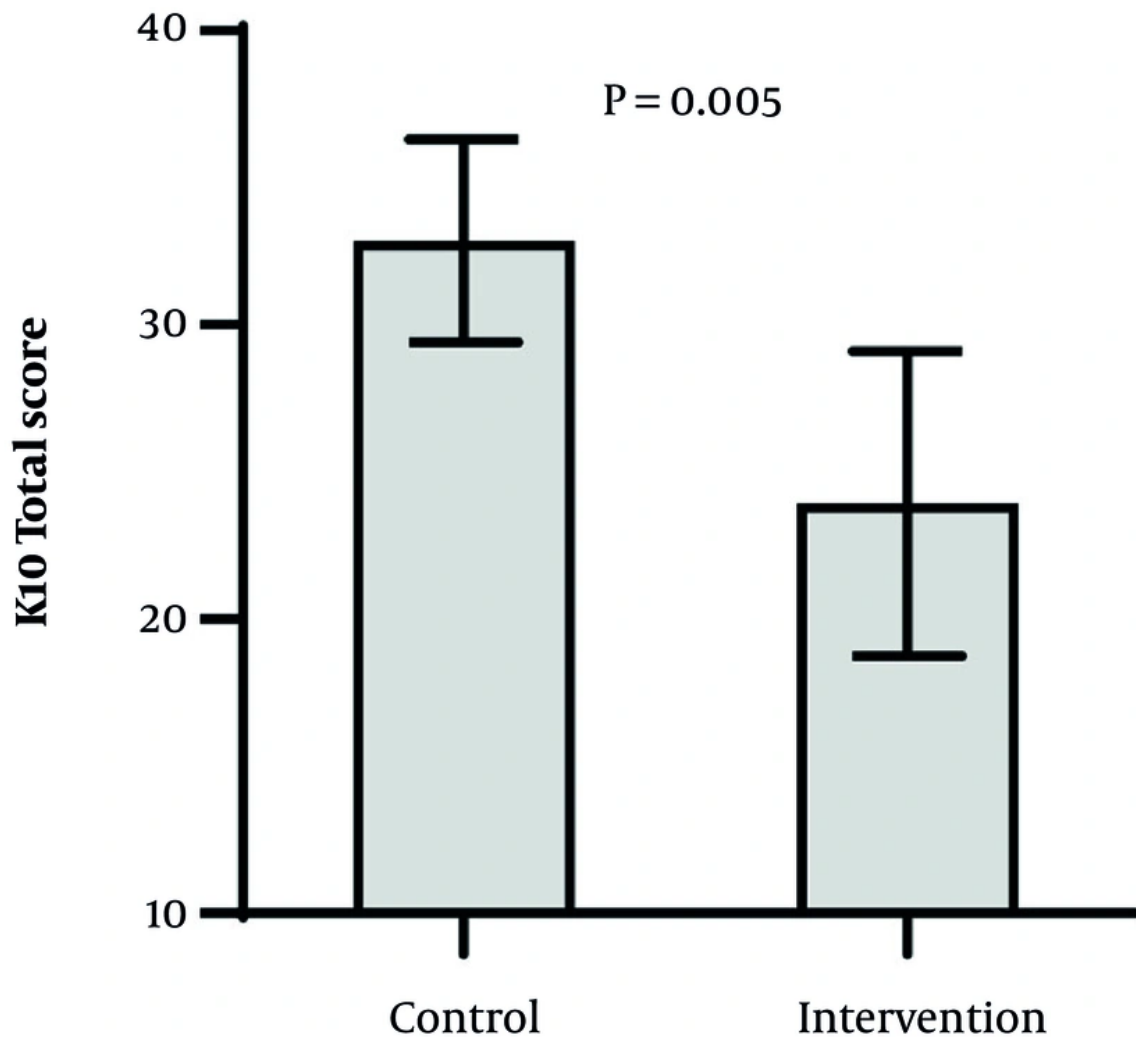


Figure 1. Comparison of psychological distress at posttest between the control and intervention groups. Values are expressed as mean with 95% confidence interval. P-values are based on independent t-tests.

Table 3. Comparison of Post-test Self-defeating Behavior Total Scores Between the Intervention and Control Groups ^a

Variables	Control Group	Intervention Group	Mean Difference (95% CI)	t	P-Value	Effect Size (Cohen's d)
Total self-defeating behavior score	56.21 ± 13.58	37.93 ± 17.91	18.28 (6.10, 30.46)	3.08	0.005	1.15

^a Cohen's d effect size values of 0.2 - 0.5, 0.5 - 0.8, and < 0.8 indicate small, medium, and large effect sizes, respectively.

avoidance, which are commonly observed in individuals with dependent personality traits (25). The observed

reductions suggest that the intervention successfully weakened maladaptive coping modes while

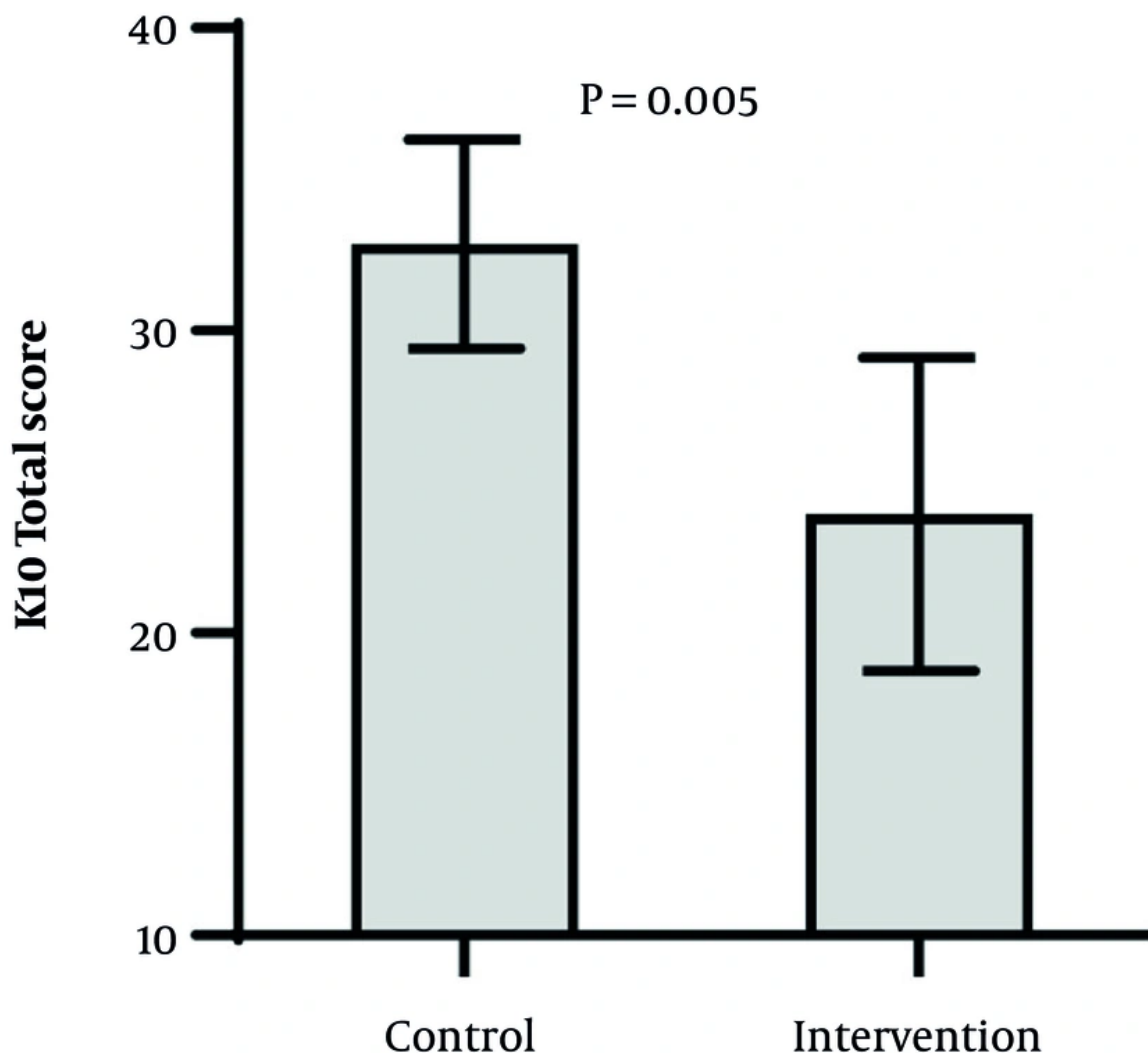


Figure 2. Comparison of psychological distress at post-test between the control and intervention groups. Values are expressed as mean with 95% confidence interval. P-values are based on independent *t*-tests.

strengthening the healthy adult mode.

In contrast, no statistically significant changes were observed in subscales such as justification, entitlement, feelings of helplessness, and fearfulness. Previous research suggests that these dimensions may reflect more deeply entrenched core schemas related to vulnerability and incompetence, which may require a longer treatment duration or more intensive interventions to change (26, 27). This finding highlights

the importance of tailoring intervention length and focus to specific behavioral and emotional processes.

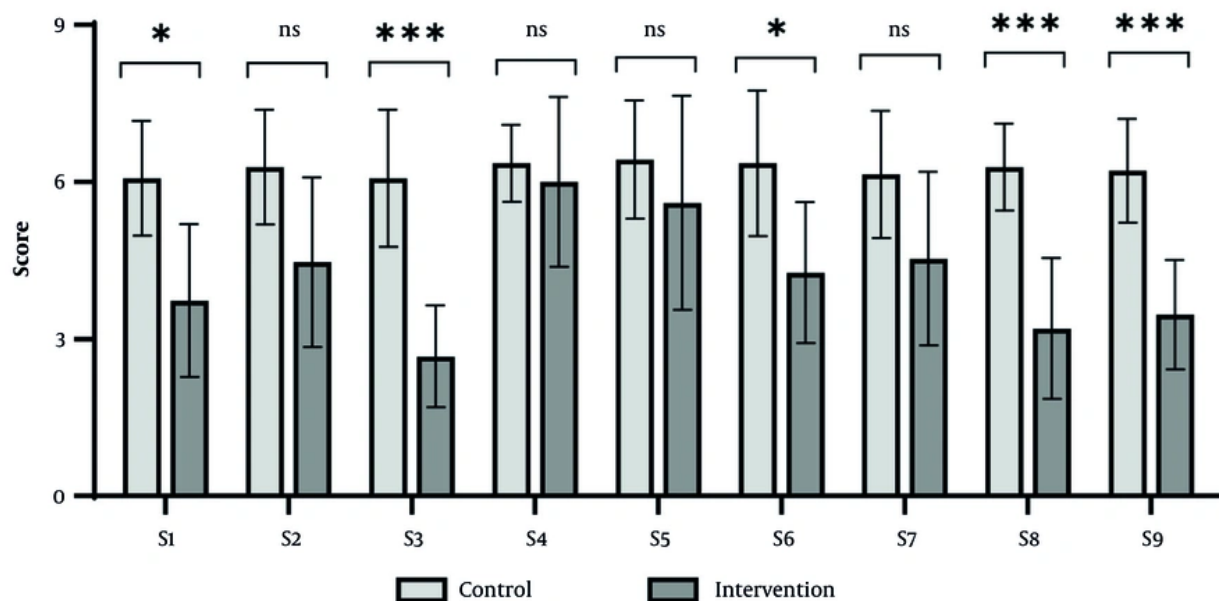
5.4. Clinical Significance of the Findings

Beyond statistical significance, the large effect sizes observed in the present study underscore the clinical relevance of the findings. Large effect sizes are increasingly emphasized in intervention research as indicators of meaningful change that extends beyond

Table 4. Comparison of Subscale Scores of Self-Harming Behaviors in Post-test Measurements Between the Control and Intervention Groups^a

Subscale	Control Group	Intervention Group	Mean Difference (95% CI)	t	P-Value	Effect Size (Cohen's d)
Self-excusing	6.07 ± 1.90	3.73 ± 2.63	2.34 (0.58, 4.10)	2.73	0.011	1.01
Justification	6.29 ± 1.90	4.47 ± 2.92	1.82 (-0.07, 3.71)	1.97	0.059	0.73
Lack of responsibility	6.07 ± 2.27	2.67 ± 1.76	3.40 (1.86, 4.95)	4.53	< 0.001	1.68
Feelings of helplessness	6.36 ± 1.28	6.00 ± 2.93	0.36 (-1.38, 2.09)	0.43	0.672	0.16
Fearfulness	6.43 ± 1.95	5.60 ± 3.70	0.83 (-1.43, 3.09)	0.76	0.455	0.28
Procrastination	6.36 ± 2.41	4.27 ± 2.43	2.09 (0.25, 3.94)	2.32	0.028	0.86
Entitlement	6.14 ± 2.11	4.53 ± 3.00	1.61 (-0.38, 3.60)	1.66	0.108	0.62
Gossiping	6.29 ± 1.44	3.20 ± 2.43	3.09 (1.57, 4.61)	4.13	< 0.001	1.53
Imitation	6.21 ± 1.72	3.47 ± 1.88	2.75 (1.37, 4.12)	4.09	< 0.001	1.52

^a Values are expressed as mean ± SD unless otherwise indicated. P-values are based on independent samples t-tests. Cohen's d values of 0.20 - 0.49, 0.50 - 0.79, and ≥ 0.80 indicate small, medium, and large effect sizes, respectively. Abbreviation: CI, confidence interval.

**Figure 3.** Comparison of subscale scores of self-harming behaviors in post-test measurement between the control and intervention groups. Values are shown as mean with 95% confidence interval. P-values are based on independent t-tests. *P < 0.05; **P < 0.01; ***P < 0.001; ns, not significant.

statistical criteria (14). The simultaneous improvement in psychological distress and self-defeating behaviors suggests that schema therapy may yield broad and functionally relevant outcomes, particularly for individuals with complex emotional and behavioral difficulties.

This integrative impact aligns with contemporary perspectives in psychotherapy research that emphasize process-based and transdiagnostic approaches to treatment (15, 28, 29). By targeting shared underlying

processes, such as maladaptive schemas and coping modes, schema therapy may offer a flexible and effective intervention for a range of psychological difficulties.

5.5. Limitations

Despite its strengths, this study has several limitations. The relatively small sample size and convenience sampling method limit the generalizability of the findings. In addition, reliance on self-report

measures may have introduced response bias. The absence of follow-up assessments also precludes conclusions regarding the long-term maintenance of treatment effects. Future research should aim to replicate these findings in larger and more diverse samples, include longitudinal follow-up assessments, and compare schema therapy with other evidence-based interventions. Incorporating qualitative methods may also provide valuable insight into participants' subjective experiences and mechanisms of change.

5.6. Conclusions

In conclusion, this study provides empirical support for the effectiveness of schema therapy in reducing psychological distress and self-defeating behaviors among women with dependent personality traits. By addressing both emotional symptoms and maladaptive behavioral patterns, schema therapy appears to offer a comprehensive and clinically meaningful intervention approach. These findings contribute to the growing body of evidence supporting schema-based interventions and underscore their potential application in clinical practice.

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Footnotes

AI Use Disclosure: For the purpose of Text Editing and Translation, the Chatgpt and Gemini were used Minor, Minor in the Discussion and Discussion section.

Authors' Contribution: Study concept and design: R. T., T. H. H., and Z. S. M. contributed to the study concept and design; T. H. H. also developed the methodological framework and supervised the overall study design. Acquisition of data: R. T. and Z. S. M. acquired and collected the study data. Analysis and interpretation of data: R. T. and Z. S. M. analyzed and interpreted the data; T. H. H. supervised the methodology and data curation. Drafting of the manuscript: R. T. and Z. S. M. drafted the original manuscript. Critical revision of the manuscript

for important intellectual content: R. T. and Z. S. M. revised the manuscript; T. H. H. critically supervised the revision and provided intellectual and methodological input. Statistical analysis: R. T. and Z. S. M. performed the statistical analysis. Administrative, technical, and material support: T. H. H. provided administrative and technical support through project administration, methodology, investigation, and data curation.

Conflict of Interests Statement: The authors do not declare any conflicts of interests for this study.

Data Availability: The dataset presented in the study is available on request from the corresponding author during submission or after publication.

Ethical Approval: This study was conducted in accordance with the ethical standards of the Declaration of Helsinki. Ethical approval for the study was obtained from the Ethics Committee of Islamic Azad University, Rasht Branch. All participants were informed about the purpose of the study, assured of the confidentiality of their information, and provided written informed consent prior to participation. Ethics approval code: IR.IAU.H.REC.1404.060

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Informed Consent: Verbal and writing consent obtained from parents of the participants to participate in the present study.

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