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Schema therapy in partially sighted individuals with a focus on social isolation and self-esteem: an interventional study

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Abstract

Background Visual impairment can lead to low self-esteem and social isolation for partially sighted individuals. Schema therapy offers a systematic approach to identifying and modifying maladaptive schemas formed in the past. This therapy has proven effective in treating mental disorders and preventing their recurrence. This study aimed to investigate the effectiveness of schema therapy in addressing social isolation and enhancing self-esteem among partially sighted individuals.

Methods This interventional study involved 66 partially sighted individuals who referred to Tavangaran Institute in Shiraz, southwestern Iran. Participants were randomly assigned to two groups: an intervention group ($n=33$) and a control group ($n=33$). The intervention group received eight sessions of schema therapy over four weeks, with two sessions per week. Data were collected from both groups using the University of California at Los Angeles Loneliness Scale and the Rosenberg Self-Esteem Scale at three time points: before the intervention, immediately after the intervention, and one month post-intervention.

Results Mean social isolation scores in the intervention group decreased significantly from 65.03 ± 2.76 before the intervention to 35.93 ± 2.80 immediately after the intervention, and 38.36 ± 3.19 one month later ($p<0.001$). Additionally, mean self-esteem scores increased significantly from 13.27 ± 1.27 to 22.30 ± 2.24 immediately after the intervention and 20.75 ± 2.43 one month after the intervention ($p<0.001$). These post-intervention scores were significantly higher than that in the control group (p-value <0.001).

Conclusion The results of this study demonstrated the effectiveness of schema therapy in improving self-esteem and reducing social isolation among partially sighted individuals. Healthcare providers, including psychologists and psychiatric nurses, are encouraged to consider using this intervention with other vulnerable groups, such as individuals with disabilities or physical impairments, who may experience similar challenges in self-esteem and social interaction.

Keywords Visually impaired, Schema therapy, Self-esteem, Social isolation, Loneliness

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Introduction

Visual impairment cannot be corrected with medication, surgery, glasses, or contact lenses. It results from physiological or neurological factors [1]. The World Health Organization defines low vision as having a visual acuity of 20/60 to 20/400 and blindness as having a visual acuity worse than 20/400 [2]. Globally, approximately 39 million people are blind, and 285 million are partially sighted [3]. In Iran, approximately 150,000 individuals are blind, with the number of partially sighted individuals being roughly four times greater [4].

Social isolation among visually impaired individuals refers to the tendency to withdraw from social interactions. Difficulty performing daily tasks and reliance on others, even for simple activities [5] can reduce self-confidence, contribute to dissatisfaction with life, and increase the risk of depression and aggression [6]. Social isolation further limits participation in formal and informal activities, reduces social exchange and attachment, weakens or disrupts relationships, and prevents the development of warm, intimate relationships, ultimately impeding the formation of long-term, stable, and deep relationships [7–10].

Blind and partially sighted individuals often experience low self-esteem due to challenges in performing daily tasks and a lack of independence [11]. Self-esteem, an emotional response to oneself, can significantly impact an individual's well-being [12]. High self-esteem is associated with positive qualities like conscientiousness and responsibility, stemming from self-awareness. Conversely, low self-esteem can lead to a lack of motivation, goal setting, and a tendency to be influenced by others [13]. Low self-esteem in people with partial sight can stem from feelings of helplessness and low self-worth related to their visual impairments. These feelings can decrease self-confidence and contribute to psychological issues such as depression, anxiety, and social isolation [14]. Furthermore, persistent low self-esteem can negatively impact both mental and physical well-being, hindering daily activities and the ability to establish healthy relationships [15].

Research has highlighted the potential of psychological interventions, such as schema therapy, in improving self-esteem, self-efficacy, disability acceptance, while reducing social isolation among individuals with physical disabilities [16–18]. Schema therapy addresses chronic psychological issues and negative thought and behavior patterns [19]. It posits that people unconsciously develop stable, repetitive patterns of thoughts, feelings, and behaviors (schemas) [20] that influence relationships, self-esteem, and coping mechanisms. By helping individuals identify and change these maladaptive schemas, schema therapy promotes healthier behaviors and better quality of life [21].

Previous research has demonstrated the effectiveness of schema therapy in reducing social anxiety, sensitivity to rejection, depression, and loneliness, as well as increasing cognitive flexibility and physical self-esteem in various populations, including individuals with visual impairments, girl's dormitory students, women, and vulnerable groups [22–27]. It is evident that the psychological consequences of social isolation and low self-esteem among partially sighted individuals pose a significant threat to both personal well-being and societal health. Prioritizing mental health and implementing psychological interventions, such as schema therapy, is crucial for supporting the well-being of visually impaired individuals [28]. Despite the potential of schema therapy to address intrapersonal issues, limited research has explored its efficacy among vulnerable populations, such as the visually impaired, in Iran. This study aimed to evaluate the effectiveness of schema therapy in mitigating social isolation and enhancing self-esteem among partially sighted individuals.

Methods

Study design and setting

A pretest-posttest interventional study was conducted on the visually impaired at the Tavangaran Institute in Shiraz, southwestern Iran, from February to June 2024.

Target population and sampling

The research population consisted of 230 partially sighted members of the Shiraz Tavangaran Institute. A random sample of 70 individuals with maximum diversity of demographic characteristics was selected and assigned to two groups: intervention ($n = 35$) and control ($n = 35$). Inclusion criteria included voluntary participation, absence of psychotic symptoms, suicidal ideation, or attempts, no prior or concurrent psychological treatment, minimum best-corrected visual acuity of 20/400, and age over 16 years. Exclusion criteria included missing more than two training sessions, unwillingness to cooperate, and incomplete questionnaires.

Data collection tools

Data collection instruments included:**1. Demographic and Background Information Questionnaire**: This questionnaire obtained information on age, duration of visual impairment, income, sex, marital status, education level, cause of low vision, and place of residence.

2. The University of California at Los Angeles, Loneliness Scale: This 20-item scale, developed by Russell et al. (1980), measures feelings of loneliness and social isolation on a 4-point Likert scale (never to always). Items 1, 5, 6, 9, 10, 15, 16, 19, and 20 are reverse scored, with a total score ranging from 20 to 80. A score of 50 or higher indicates significant loneliness. The original version

demonstrated a test-retest reliability of 0.89 [29], while the Persian version reported a Cronbach's alpha of 0.78 [30].

3. The Rosenberg Self-Esteem Scale: This 10-item scale, developed by Rosenberg (1965), measures self-esteem on a 4-point Likert scale (strongly agree to strongly disagree). Items 1–5 are scored positively, while items 6–10 are scored negatively. Total scores range from 0 to 30, with higher scores indicating higher self-esteem. Scores above 25, between 15 and 25, and below 15 suggest high, moderate, and low self-esteem, respectively [31]. The scale's construct validity was confirmed through exploratory factor analysis, and its reliability was assessed using Cronbach's alpha, yielding a coefficient of 0.74. Iranian researchers further validated the scale through expert review and internal consistency analysis, reporting a Cronbach's alpha of 0.69 [32].

Intervention and data collection

Participants in both the intervention and control groups provided written informed consent after receiving detailed explanations of the study objectives, procedures, and ethical considerations. Initial assessments were conducted through questionnaire administration. Subsequently, the intervention group underwent schema therapy, delivered by a psychologist in a suitable setting. The therapy was provided by trained professionals with expertise in both schema therapy and clinical psychology. The therapist had formal training in schema therapy and prior experience working with visually impaired individuals. The four-week intervention consisted of two 90-minute group sessions per week [33–35]. Five nursing faculty members from Kerman University of Medical Sciences confirmed the content validity of the educational sessions (Table 1). The control group received routine care during this period. Data were collected from both groups immediately and one month after the intervention.

Table 1 Summary of schema therapy sessions

Goal: Investigating the effect of schema therapy on social isolation and self-esteem in partially sighted people.	
Target group: 33 visually impaired people in the intervention group.	
Expected duration: Four weeks, two 90-minute sessions per week.	
Training methods: Lecture, case reports sharing, audio-visual materials, group discussion, contributions of work-based experiences, questions and answers	
Evaluation method: Comparison of pre-test and post-test scores of social isolation and self-esteem	
Sessions	Content
1	Introduction and communication Interview with participants Review of session structure and group rules Explanation of number and topics of sessions Explanation of Wells and Young's therapeutic model Concepts of schema and behavioral schema therapy Interpersonal or communication therapy techniques and experiential techniques Explanation of cognitive behavioral therapy, cognitive techniques, paradigm breaking
2 and 3	The relationship between schema therapy, isolation, and self-esteem Schemas and coping styles Training mindfulness techniques and testing suppression-non-suppression Implementing cognitive techniques to challenge identified schemas Explaining an example of a maladaptive schema Factors affecting schema acquisition
4 and 5	Training the technique of focusing attention Implementing cognitive techniques to deal with coping responses Implementing experiential techniques to modify emotions and partially satisfy unmet needs Helping members experience emotions related to schemas Reviewing types of schemas
6 and 7	Breaking behavioral paradigms and implementing behavioral methods to create fundamental changes in life Using verbal and behavioral re-attribution techniques focused on risk beliefs Establishing a dialogue between schemas and the healthy side Methods necessary for controlling impulses and emotions Teaching the technique of examining opposing evidence and preparing members for obstacles to applying the techniques Surveying and questioning individuals to complete the training provided
8	Summarizing, concluding, and answering members' questions Evaluating the entire session Appreciation Posttest

Data analysis

Data were analyzed using SPSS version 21. Descriptive statistics (e.g., mean, standard deviation) were employed to describe the demographic characteristics of the participants. Independent samples t-, chi-square, or Fisher's exact tests were used to compare demographic differences between the intervention and control groups. Given the fulfillment of parametric conditions, repeated-measures ANOVA and Bonferroni post-hoc tests were utilized to compare changes in self-esteem and social isolation scores within each group over time. Moreover, sphericity assumption was checked and if necessary, the Greenhouse-Geisser correction was applied. Independent samples t-tests were conducted to compare self-esteem and social isolation scores between the two groups at different time points. A significance level of ≤ 0.05 was considered for all statistical tests.

Results

Demographic information

Of 70 partially sighted individuals, 66 completed the study, yielding a 94% response rate. Two participants from the intervention group were excluded due to incomplete schema therapy sessions, while two participants from the control group were excluded due to non-completion of the post-test. The mean ages of participants in the intervention and control groups were 27.27 ± 1.60 and 27.69 ± 1. 57 years, respectively. The mean durations of visual impairment were 23.84 ± 2.03 years in the intervention group and 22.84 ± 1. 61 years in the control group. Additionally, the mean income of the intervention group was 59.70 ± 11.40 million tomans, while the control group's mean income was 46.32 ± 10.88 million tomans. No significant differences in demographic variables were found between the intervention and control groups (Table 2).

Social isolation

The results showed that mean social isolation scores in the intervention group decreased significantly from 65.03 ± 2.76 pre-intervention to 35.93 ± 2.80 immediately post-intervention and 38.36 ± 3.19 one month after the intervention. This reduction in social isolation was statistically significant compared to before the intervention and the control group (p-value < 0.001). The mean social isolation scores in the control group were 65.48 ± 2.68, 64.12 ± 3.00, and 65.66 ± 3.6 before, immediately, and one month after the intervention, respectively, which were not statistically significant.

Repeated measures ANOVA confirmed that group-time variable significantly influenced social isolation scores. Bonferroni post-hoc test confirmed significant reductions in social isolation scores between pre-intervention and both immediate post-intervention and one-month post-intervention. While social isolation scores in the control group remained statistically unchanged over time (p-value = 0.1), the intervention group demonstrated a sustained reduction in social isolation one month after the intervention compared to before the intervention. Although the intervention's impact was evident at one month, the social isolation score at one month post-intervention was not significantly different from the score immediately post-intervention. As previously stated, the immediate post-intervention score was

Table 2 The demographic information of the partially sighted people in the intervention and control groups

Variables	Categories	Intervention		Control		X^{2a}	*p*-value
		n	%	*n*	%		
Gender	Male	14	42.4	11	33.3	0.58[a]	0.44
	Female	19	57.6	22	66.7		
Marital status	Single	24	72.7	22	66.7	0.28[a]	0.59
	Married	9	27.3	11	33.3		
Education	Upper secondary	5	15.2	6	18.2		
	Diploma	10	30.3	10	30.3		
	Associate Degree	4	12.1	6	18.2		
	Bachelor's Degree	9	27.3	8	24.2	1.05[b]	0.90
	Master's Degree	5	15.2	3	9.1		
Cause of Blindness	Congenital	23	69.7	22	66.7	0.07 [a]	0.79
	Non-congenital	10	30.3	11	33.3		
Residence	Shiraz	26	78.8	25	75.8	0.08 [a]	0.76
	Other Cities	7	21.2	8	24.2		
		M ± SD		M ± SD		Independent t- test	P-value
Age		27.27 ± 1.60		27.69 ± 1.57		-0.63	0.529
Duration of illness		23.84 ± 2.03		22.84 ± 1.61		0.38	0.702
Income ($)		59.70 ± 11.40		46.32 ± 10.88		0.84	0.404

[a] Chi square test, [b]Fisher's exact test

Table 3 Comparison of the social isolation scores between the intervention and the control groups at different times

	Intervention		Control		
	M	**SD**	**M**	**SD**	
Before Intervention	65.03	2.76	65.48	2.68	
Immediately after the Intervention	35.93	2.80	64.12	3.00	
One month after the Intervention	38.36	3.19	65.66	3.06	
Source of change	**Sum of squares**	**Degree of freedom**	**F**	**p-value**	**Eta2**
Group	17210.68	1	41838.68	< 0.001	0.99
Time	9045.76	1	822.79	< 0.001	0.92
Group -time interaction	8197.28	1	745.61	< 0.001	0.92
Error	703.61	64			

Table 4 Comparison of the self-esteem scores between the intervention and the control groups at different times

	Intervention		Control		
	M	**SD**	**M**	**SD**	
Before Intervention	13.27	1.73	12.75	3.54	
Immediately after the Intervention	22.30	2.24	13.39	2.73	
One month after the Intervention	20.75	2.43	13.15	2.46	
Source of change	**Sum of squares**	**Degree of freedom**	**F**	**p-value**	**Eta2**
Group	1595.17	1	102.69	< 0.001	0.61
Time	872.93	1	192.87	< 0.001	0.75
Group-time interaction	673.04	1	148.79	< 0.001	0.69
Error	289.65	64			

significantly lower than the pre-intervention score. In the control group, neither the one-month post-intervention nor the immediate post-intervention scores differed significantly from the pre-intervention score (Table 3).

Self-esteem

Mean self-esteem scores in the intervention group increased significantly from 13.27 ± 1.27 pre-intervention to 22.30 ± 2.24 immediately post-intervention and 20.75 ± 2.43 one month after the intervention. Therefore, self-esteem in the intervention group significantly improved after the intervention compared to before the intervention and the control group ($p < 0.001$). The mean self-esteem scores in the control group were 12.75 ± 3.54, 13.39 ± 2.73, and 13.15 ± 2.46 before, immediately, and one month after the intervention, respectively, which were not statistically significant. Repeated measures ANOVA confirmed that group-time variable significantly influenced self-esteem scores.

Bonferroni post-hoc test confirmed a significant increase in self-esteem between pre-intervention and both post-intervention and one-month post-intervention scores. No significant differences in self-esteem were observed in the control group over time (p-value = 0.24). While self-esteem significantly increased immediately following the intervention, scores continued to rise significantly one month later. In contrast, the control group showed no significant changes in self-esteem over time. In the control group, self-esteem scores at post-intervention and one-month post-intervention were not significantly different from pre-intervention scores, nor were post-intervention and one-month post-intervention scores significantly different from each other (Table 4).

Discussion

This study aimed to evaluate the impact of schema therapy on social isolation and self-esteem among partially sighted individuals. Our results indicated that schema therapy effectively reduced social isolation in the intervention group both immediately and one month post-intervention compared to pre-intervention levels and the control group.

A comprehensive literature search revealed no direct studies examining the efficacy of schema therapy on social isolation in partially sighted populations. However, relevant research on similar populations and outcomes provides supporting evidence. For instance, Gashooli et al. (2022) conducted two studies and demonstrated the effectiveness of schema therapy in reducing sensitivity to rejection and social anxiety in blind and partially sighted individuals [22, 23]. Other studies have shown schema therapy's positive impact on cognitive skills, failure tolerance, loneliness, depression, distress tolerance, and emotional distress in various populations, including students, girl's dormitory students, divorced women, women affected by emotional infidelity, and couples [24, 36–39]. One study investigated the impact of compassion-based techniques training and cognitive and emotional schemas on reducing feelings of loneliness and emotional dysregulation in runaway adolescent girls. The results revealed

that both training methods were effective in mitigating these issues [16]. Other studies have also demonstrated the efficacy of cognitive-behavioral therapy in addressing social and emotional challenges. For instance, research has shown that cognitive-behavioral therapy can reduce social avoidance in blind students [40] and loneliness in older women [41].

The results of this study demonstrated that schema therapy significantly enhanced self-esteem in the intervention group both immediately and one month post-intervention compared to pre-intervention levels and the control group. Several studies corroborate the efficacy of schema therapy in improving self-esteem across various populations. For instance, Sekari (2022) revealed that schema therapy significantly elevated self-esteem in married women with inferiority and shame schemas [42], in women heads of households, and women involved in marital conflict [27, 43]. Additionally, a study showed that schema therapy focused on mindset increased self-esteem and reduced impulsivity in individuals with narcissistic personality disorder [44].

Other studies have reported that schema therapy increased self-concept and self-esteem in individuals living with AIDS [45] and prisoners [46], as well as increased self-esteem and distress tolerance and reduced depression in fatherless depressed adolescents [47]. The results of a study on visually impaired students showed that group therapy based on motivation and commitment increased their self-esteem [48]. Another study on blind and partially sighted adults demonstrated that cognitive behavioural group therapy improved acceptance, problem-solving skills, and quality of life. The researchers concluded that increasing quality of life and acceptance, including acceptance of vision problems as a permanent condition, can increase self-esteem [49].

However, Khodabandehlow et al. (2018) found that schema therapy, while effective in increasing implicit self-esteem, was not effective in increasing overt self-esteem in individuals with narcissistic personality disorder [17]. Sönmez et al. (2020) showed that cognitive therapy did not have a greater effect than routine treatment on self-esteem and depression in people with early psychosis, and self-esteem remained at the same low level [50].

Limitations

This study had several limitations. Its focus on Iranian society and culture limits generalizability, requiring further studies in other cultural contexts. The small sample size and two-stage follow-up limit the longitudinal scope of the findings, highlighting the need for large sample size and extended follow-up. Participants' functional, mobility, and transportation limitations required intensive training sessions, potentially reducing the impact of the intervention. Some partially sighted participants relied heavily on auditory input during sessions, which, despite researchers' efforts to ensure comprehensive material delivery, may have influenced results. Ethical considerations and the specific needs of partially sighted participants dictated standard treatment for the control group. Future studies should compare schema therapy with other interventions. The reliance on self-reported measures of social isolation and self-esteem, particularly the Rosenberg questionnaire with its low Cronbach's alpha in this study, also presents a limitation. Future studies should consider more objective or third-party assessments and utilize more reliable self-esteem measures.

Conclusion

This study demonstrated that schema therapy training reduced social isolation and increased self-esteem in visually impaired individuals. Schema therapy, an integrative psychological approach, targets maladaptive schemas developed in early life. By modifying these schemas, it promotes shifts in perspective and improves communication, significantly impacting personal and social well-being. Reducing maladaptive schemas related to social isolation and self-esteem encourages social engagement and reduces isolation, leading to greater adaptability and resilience in facing life's challenges. This approach also facilitates more accurate self-assessment and improved decision-making, further contributing to increased self-esteem and reduced social isolation. Therefore, it is recommended that healthcare providers, including psychologists and psychiatric nurses, consider using schema therapy with other vulnerable populations, such as individuals with disabilities or physical impairments who may experience low self-esteem and social isolation. Future research should also employ a more diverse sample to increase the generalizability of findings.

Abbreviations

AIDS Acquired immunodeficiency syndrome

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Author contributions

AA, JF, MT, and SM contributed to conceiving and designing the research. The data were collected, analyzed, and interpreted by AA, JF, MT, and SM. AA, JF, MT, and SM contributed equally to writing and revising the manuscript and approved the final manuscript.

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Data availability

The data are available upon request to the corresponding author after signing appropriate documents in line with ethical application and the decision of the Ethics Committee.

Declarations

Ethics approval and consent to participate
The present study was approved by the Ethics Committee of the Kerman University of Medical Sciences (IR.KMU.REC.1402.395). All steps and procedures were performed in accordance with the Declaration of Helsinki and the Committee on Publication Ethics (COPE). Necessary permissions were presented to the study setting prior to the study. At the beginning of the study, all participants provided written informed consent to participate. The participants were assured of the confidentiality of their information and voluntary participation; they could withdraw from the study at all stages without any negative consequences.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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