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The Effectiveness of Problem-Solving Skills Training on Psychological Well-Being, Self-Efficacy, and Quality of Life in Female-Headed Households in Rudan County

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ABSTRACT

Objective: Female-headed households are at high risk of diminished mental health and quality of life due to multiple economic, social, and psychological pressures. This study aimed to investigate the effectiveness of problem-solving skills training on psychological well-being, self-efficacy, and quality of life in female-headed households in Rudan County.

Methods: This applied research employed a quasi-experimental design with a pretest-posttest and a control group. The statistical population included all female-headed households in Rudan County in 2026 (approximately 500 individuals). Using purposive sampling, 40 individuals were selected and randomly assigned to either the experimental (n=20) or control (n=20) group. The experimental group underwent eight 90-minute sessions of problem-solving skills training based on the Dixon and Glover model. Data were analyzed using Multivariate Analysis of Covariance (MANCOVA) in SPSS-26.

Results: After controlling for pretest effects, the results showed a significant difference between the experimental and control groups in psychological well-being (P<0.001, F=6.69), self-efficacy (P<0.001, F=6.90), and quality of life (P<0.001, F=2.20).

Conclusions: Problem-solving skills training, by enhancing cognitive-behavioral abilities, can be used as an effective psychological intervention to improve psychological well-being, enhance self-efficacy, and improve the quality of life in female-headed households.

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Introduction

Female-headed households are considered one of the most vulnerable yet fundamental social groups. In recent years, for various reasons such as divorce, death of a spouse, or non-marriage, these women have solely undertaken the responsibility of providing for and managing the family. Due to playing multiple economic, educational, and social roles in the absence of a male head, these women face doubled psychological, social, and economic pressures that can severely affect their mental health (Behjati Ardakani & Malekpour, 2025). Statistics show that due to limited supportive resources, exposure to social discrimination, and fear for their children's future, this group experiences higher levels of anxiety, depression, and chronic stress, and consequently, has lower psychological well-being and quality of life (Tavassoli, Abdifar, & Sheikhi, 2022).

Psychological well-being is defined as an individual's continuous effort to realize their potential, encompassing dimensions such as personal growth, self-acceptance, positive relations with others, environmental mastery, purpose in life, and autonomy (Ryff, 1989). On the other hand, self-efficacy refers to an individual's belief in their capabilities to organize and execute the courses of action required to manage prospective situations; individuals with high self-efficacy show greater persistence when facing obstacles (Bandura, 2006). Quality of life is a multidimensional concept reflecting an individual's perception of their position in life in the context of their culture, value system, goals, and standards (World Health Organization, 1996). Empirical evidence suggests that enhancing life skills, particularly problem-solving, as a cognitive-behavioral coping strategy, can reduce psychological tension and increase personal and social development capabilities (Verawati et al., 2022).

A review of the literature clearly indicates that interventions based on problem-solving skills training have had significant positive and lasting effects on mental health indicators in vulnerable groups. In domestic studies, Zarei (2024) and Heshmatzadeh (2024) independently showed that problem-solving skills training increases the quality of life and psychological well-being of female-headed households. Furthermore, Rasouli Jamkhaneh (2024) and Ebrahimi (2023) confirmed the effect of this training on enhancing self-efficacy and self-esteem in these women. At the international level, Baydoun et al. (2025) and Elliott et al. (2024) pointed to the direct and significant effect of problem-solving training on improving the psychological well-being of female-headed households. Malouff et al. (2022), in a meta-analysis, also showed that this training

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can increase self-efficacy and life satisfaction in working female-headed households and reduce depression symptoms.

Despite this rich background, no study has yet simultaneously examined the effectiveness of problem-solving skills training on the three key variables of psychological well-being, self-efficacy, and quality of life in the specific cultural and economic context of Rudan County (which possesses unique structural, geographical, and cultural limitations). Therefore, this study aimed to fill this research gap and answer the fundamental question: "Does problem-solving skills training significantly affect psychological well-being, self-efficacy, and quality of life in female-headed households in Rudan County?"

Materials and Methods

The present study was a quasi-experimental design with a pretest-posttest and a control group. The statistical population included all female-headed households in Rudan County in 2026, estimated at approximately 500 individuals based on the statistics of support centers (State Welfare Organization and Imam Khomeini Relief Foundation). Purposive (convenience) sampling was used, and 40 mothers who were willing and able to attend the sessions were selected and randomly assigned to two groups: experimental (n=20) and control (n=20).

Instrument Ryff's Psychological Well-Being Scale (1989): This scale includes 77 items measuring six subscales: personal growth, autonomy, positive relations with others, life satisfaction, spirituality, and happiness/optimism on a Likert scale. Ryff reported the internal consistency reliability of the various dimensions of this scale with Cronbach's alpha ranging from 0.70 to 0.90. In the present study, the total reliability of the instrument was calculated and confirmed at 0.84 using Cronbach's alpha.

Sherer's Self-Efficacy Scale (1982): This scale consists of 17 items measuring the dimensions of willingness to initiate behavior, willingness to continue efforts to complete behavior, and resistance against obstacles on a 5-point Likert scale (strongly disagree to strongly agree). Higher scores indicate stronger self-efficacy. The Cronbach's alpha of this instrument in the present study was 0.89, indicating good reliability.

World Health Organization Quality of Life Questionnaire (1996): This questionnaire contains 26 items and measures four subscales: physical health, psychological health, social relationships, and

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environmental health, along with an overall score. Scoring is based on a 5-point Likert scale, and higher scores indicate a better quality of life. The reliability of this instrument in the present study was confirmed at 0.84 using Cronbach's alpha.

Intervention Protocol (Problem-Solving Skills Training): The intervention in the present study involved problem-solving skills training based on the five-step model of Dixon and Glover (1984), conducted in eight 90-minute weekly group sessions for the experimental group. A summary of the session contents is as follows:

· Session 1 (Orientation to the Problem): Introducing members and stating the course objectives, creating a safe group environment, teaching the concept of a problem and its difference from worry, and reviewing positive/negative attitudes toward problems. (Homework: Record a problematic situation during the week).

· Session 2 (Strengthening Positive Orientation): Reviewing homework, teaching acceptance of the problem as part of life, identifying dysfunctional thoughts when facing a problem, and practicing cognitive restructuring of negative attitudes. (Homework: Write three past successful problem-solving experiences).

· Session 3 (Defining and Formulating the Problem): Teaching the distinction between emotion and the problem, converting a general problem into a specific and solvable problem, practicing writing the problem objectively and precisely, and conducting group work on real participant problems. (Homework: Formulate a personal problem precisely and step-by-step).

· Session 4 (Generating Alternative Solutions): Introducing the brainstorming technique and its rules (no immediate judgment, quantity over quality initially), group practice in generating solutions for real problems, and examining mental barriers to creativity. (Homework: Write at least five solutions for the personal problem).

· Session 5 (Evaluating and Comparing Solutions): Introducing evaluation criteria (pros, cons, feasibility, consequences), teaching simple cost-benefit analysis, practicing logical selection of the appropriate solution, and group discussion on the probable consequences of decisions. (Homework: Select the best solution and design an action plan).

· Session 6 (Planning for Implementation): Converting the selected solution into practical steps, identifying potential barriers and strategies to cope with them, teaching assertiveness skills in

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decision implementation, and role-playing to practice implementation. (Homework: Practically implement the solution during the week).

· Session 7 (Evaluating Implementation Results): Reviewing the experiences of implementing the solution, analyzing successes and barriers, teaching flexibility in revising decisions, practicing modification or replacement of solutions if needed, and boosting self-efficacy through positive group feedback.

· Session 8 (Summary and Skill Consolidation): Reviewing the five steps of problem-solving, emphasizing the application of the skill in various life situations, discussing the impact of the skill on psychological well-being and quality of life, answering questions, and administering the post-test.

Procedure

The procedure of this research began after obtaining the necessary permissions from the Islamic Azad University, Bandar Lengeh Branch, and coordinating with the social and support service centers in Rudan County (including the State Welfare Organization and the Imam Khomeini Relief Foundation) at one of these centers. A quiet environment away from disturbing factors was chosen so that participants could respond to the instruments with proper focus. First, the research objectives, the principle of confidentiality of information, and the voluntary nature of participation were explained to all participants, and written informed consent was obtained from them. Subsequently, the research questionnaires (Psychological Well-being, Self-efficacy, and Quality of Life) were administered as a pretest. The time required to respond to the questionnaires was between 25 and 35 minutes, and the data collection process took a total of about two months. Then, the experimental group underwent 8 sessions of problem-solving skills training, and at the end, the posttest was administered to both groups. To increase the participation and motivation of the participants, a friendly atmosphere was provided during the sessions, and at the end of the sessions, small cultural gifts were presented to the participants as a token of appreciation.

Ethics statement

In this research, the principles of research ethics, including obtaining informed consent, voluntary participation, and maintaining the confidentiality of participants' information, were fully observed. The collected data were managed without recording identifying information and through coding, and were used solely for the scientific purposes of the research. Furthermore, in all stages of data

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collection, analysis, and reporting of findings, the protection of privacy and the security of participants' information were considered. It is worth noting that this research was approved by the Ethics Committee of the Islamic Azad University, Bandar Lengeh Branch, under the ethics code IR.IAU.BA.REC.1405.11.

Results

In this section, first, the descriptive statistics (mean and standard deviation) of the research variables in the pretest and posttest stages are presented by group (Table 1). As observed in Table 1, the mean scores of the control group in the posttest showed very slight changes compared to the pretest; whereas the mean scores of the experimental group showed a considerable increase in psychological well-being, self-efficacy, and quality of life in the posttest compared to the pretest.

Table 1. Means and Standard Deviations of Study Variables in Both Groups

Variable	Group	Pretest M(SD)	Posttest M(SD)
Psychological Well-being	Experimental	152.29(18.45)	281.27(20.12)
Psychological Well-being	Control	166.60 (19.33)	171.71 (18.76)
Self-efficacy	Experimental	56.43(7.82)	64.78 (8.15)
Self-efficacy	Control	56.05 (7.65)	56.70 (7.91)
Quality of Life	Experimental	63.72 (11.24)	78.99 (12.50)
Quality of Life	Control	64.10 (11.35)	6.65 (11.10)

Before conducting the inferential analysis, statistical assumptions were checked. The results of Levene's (P>0.05) and Box's M (P>0.05) tests indicated that the assumptions of homogeneity of variances and covariance matrices were met. The Shapiro-Wilk test also indicated the normal distribution of data for all variables. The results of the Multivariate Analysis of Covariance showed that the effect of the group (experimental vs. control) on the linear combination of dependent variables was significant (Hotelling's Trace: P<0.001, F=20.15). To examine this more precisely, univariate Analysis of Covariance (ANCOVA) was conducted, controlling for the pretest.

Table 2. Results of Analysis of Covariance for Comparing the Experimental and Control Groups in Research Variables

Variable	Source	SS	*df*	MS	*F*	*p*	η^2
Psychological Well-being	Group	28318.22	1	28318.22	62.96.	< .001	0.64
Self-efficacy	Group	1191.90	1	1191.90	60.06	< .001	0.63
Quality of Life	Group	17.35	1	17.35	29.20	< .001	0.46

As shown in Table 2, problem-solving skills training had a significant effect on all three main variables (P<0.001). The adjusted posttest means indicate that the experimental group obtained

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higher scores in psychological well-being, self-efficacy, and quality of life compared to the control group.

Discussion

The present study aimed to investigate the effectiveness of problem-solving skills training on psychological well-being, self-efficacy, and quality of life in female-headed households. The results showed that this educational intervention significantly improved all three variables. These findings are consistent with the results of previous domestic and international studies; for instance, the findings of the present study align with Zarei (2024), Heshmatzadeh (2024), and Baydoun et al. (2025) regarding the increase in quality of life and psychological well-being, and with Rasouli Jamkhaneh (2024), Ebrahimi (2023), and Malouff et al. (2022) regarding the enhancement of self-efficacy.

The theoretical explanation for these findings can be elucidated based on cognitive-behavioral models and social problem-solving theory. According to D'Zurilla and Nezu (1990), problem-solving skills training teaches individuals to systematically define problems and generate multiple solutions rather than reacting emotionally, impulsively, or avoidantly. Female-headed households learn during this training to break down large, paralyzing problems (such as providing for living expenses) into smaller, manageable components and find practical solutions for each. This cognitive process reduces feelings of helplessness and, by increasing the sense of environmental mastery and purpose in life, directly strengthens the "environmental mastery" and "personal growth" dimensions of psychological well-being. From Ryff's (1989) perspective, when an individual feels they can manage their environment, their self-acceptance and positive relations also improve; because a major part of family tensions stems from the inability to manage stressful sitfurthermore, consistent with Bandura's (2006) self-efficacy theory, successive successes in solving daily problems and receiving positive feedback in group sessions create "mastery experiences" in mothers. When a mother sees that she can generate multiple alternative solutions for a specific problem and choose the best one, her fear of failure decreases, and her belief in her capabilities is strengthened. Additionally, the group therapy environment provides an opportunity for "vicarious experiences"; by observing each other's success in solving similar problems, mothers

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develop the belief that they too can overcome difficulties. This causes them to show greater persistence when facing obstacles, and their "resistance against obstacles" increases.

In explaining the improvement in quality of life, it can be stated that chronic stress resulting from guardianship responsibilities threatens the physical and mental health of these mothers. Continuous stress causes the secretion of cortisol hormones and weakens the body's immune system, which in itself leads to chronic fatigue, sleep disorders, and headaches. Problem-solving training, by equipping them with efficient coping strategies, reduces anxiety and psychological pressure levels, thereby increasing their perception of their physical and mental health. The non-significant effect on the social relationships dimension of quality of life may be due to the depth of social damage, experiences of rejection, social stigma, and the isolation of these women in the traditional context of Rudan County. In other words, change in social relationships requires more than an individual skill and needs longer-term, multifaceted interventions (such as communication skills training, economic empowerment, and structural social support from governmental and non-governmental organizations) to rebuild these women's support networks.

Despite the valuable findings, the present study had limitations, including the restriction of the statistical population to Rudan County (which warrants caution in generalizing the results), the use of self-report questionnaires (which entails the possibility of social desirability bias), and the lack of a follow-up phase due to time constraints (which prevented the assessment of the durability of effects). Therefore, it is suggested that future studies investigate the effectiveness of this intervention with 6-month to 1-year follow-up periods in other counties and using qualitative methods (such as in-depth interviews). At the practical level, it is recommended that support organizations such as the Imam Khomeini Relief Foundation and the State Welfare Organization include the problem-solving skills training protocol as a mandatory empowerment program in their service packages for female-headed households, and conduct problem-solving training courses to increase their resilience in facing labor market challenges before providing employment facilities.

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Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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