

## Original research

**The Effectiveness of Group Logotherapy on Resilience, Quality of Life and Expectancy of Women with Prostitution History**Narges Parsamehr<sup>1</sup>, Mohammad Reza Tamannaefar\*<sup>2</sup>**Abstract**

**Introduction:** Considering that group meaning therapy can be effective in improving the injuries and problems of women with a history of prostitution, the purpose of this study was to determine the effectiveness of group meaning therapy on resilience, quality of life, and life expectancy in women with a history of prostitution.

**Research Methods:** This semi-experimental study was conducted with a pretest-posttest design with control group and follow-up 2 month. The statistical population of the present study was women with prostitution history in Tehran city in 2024. In the first stage, the number of 34 women with purposeful sampling was selected and then randomly divided into one experimental group (17 women) and one control group (17 women) were replaced and experimental underwent 8 sessions of 90 minutes group logotherapy, but the control group received no training and remained in the waiting list. To collect data resilience scale of Connor and Davidson, quality of life-BRIEF of World Health Organization and adult dispositional hope scale of Snyder and et al. Data analysis was performed using SPSS-28 software with analysis of variance with repeated measures and Bonferroni.

**Results:** The results of the study showed that of group logotherapy had a significant effect on resilience, quality of life and expectancy and this effect was stable in the follow-up phase follow up stage ( $P < 0.05$ ).

**Conclusion:** Based on the present findings, it can be concluded that group logotherapy in increase resilience, quality of life and expectancy in women with prostitution history. Therefore, group logotherapy can be used to improve the personality, cognitive and emotional problems of women with history of prostitution.

**Keyword:** Expectancy, Group Logotherapy, Quality of Life, Resilience.

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**Introduction:**

One of the social and emotional centers that can shape people's personalities is the family nucleus, which is formed through marriage between a man and a woman (1). In a way that the need for love, marital intimacy, and the need for peace draw men and women together and lead to the formation of a family and marital life (2). In this context, with the formation of marital life, the commitment to the covenant between them is of great importance, and this commitment forms the foundation of their marital life, and both men and women in the family nucleus and in the framework of marital relations also meet their sexual needs (3). However, some women, for various reasons, including economic and social factors, cannot marry or, due to poverty, resort to prostitution to earn money and choose sex work for a long or temporary period (4); Therefore, prostitution can be defined as the act of providing sexual services in exchange for money (5). On the other hand, prostitution has been a subject of intense debate in all societies and cultures, albeit with varying degrees of public acceptance or rejection. The choice of a legal approach to address this issue (i.e., legalization or prohibition) may be influenced by ideological factors (6). In Iranian society, this act is considered unlawful and un-Islamic from the perspective of both law and religious scholars. Prostitution entails adultery, touching, gazing at, and deriving pleasure from the body of an unrelated person, and according to Islamic teachings, each of these acts is strictly forbidden and unanimously considered sinful by religious scholars. On the other hand, in this context, various political and social frameworks in Europe and different factions of the feminist movement also endorse diverse viewpoints on prostitution, particularly regarding the conditions of women in prostitution. One perspective is that of sex work, which views prostitution as a legitimate profession or a choice of occupation for women (7).

However, there is another feminist perspective that considers prostitution as the most extreme form of women's exploitation and argues that sex cannot be legally bought or sold (8). Some feminist or social movements, and individuals in general, view prostitution merely as a means of engaging in sexual activity and equate it with any other job, in which case demanding workers' rights for women becomes necessary. Additionally, prostitution is predominantly female and is disproportionately provided by the most marginalized and vulnerable women and girls (9). Evidence suggests that not only are all types of sexual violence manifested in prostitution, but it is also the ultimate expression of such violence (5). Therefore, all forms of prostitution are fundamentally exploitative, and women suffer from numerous consequences, including physical harm, verbal and sexual violence, and various psychological disorders (10), mental health problems such as anxiety, substance abuse, and suicidal thoughts (11), high levels of depression (12), sexually transmitted diseases, and suicide risk (13). The presence of such problems causes these women to experience lower resilience in the face of life's challenges and hardships (14). Resilience is an individual's ability to adapt successfully (15) to stressful or adverse life events without experiencing significant and lasting negative impacts on their psychological or physical functioning (16). Research indicates that sex workers with higher levels of resilience report greater life satisfaction (17). However, women who engage in both sex work and drug use (women who use drugs and sell sex WWUD-SS) often exhibit limited resilience. The

combination of sex work and poverty can lead to social isolation, preventing these women from seeking support from others and further diminishing their resilience (18).

Therefore, although women involved in sex work and former sex workers report adverse conditions such as poor financial situations and unemployment, most of them possess resources to build resilience, cope with adversities, and remain hopeful for the future (19). Hope has been described as an intense desire that is actively pursued by an individual (20). According to Snyder's theory of hope, hope is defined as a primarily cognitive and goal-oriented thought pattern in which individuals pursue various paths to achieve their goals, remain motivated to follow these paths, and actively seek alternative paths for these goals if necessary (21). Most women who have no hope for life and resort to prostitution due to a lack of suitable jobs and low incomes, do so because prostitution can be a quick way to earn money and is the only profession in which women, compared to other available jobs, may earn more income in fewer hours (22). According to research, sex workers lose hope for their lives due to contracting sexually transmitted diseases and diseases such as the Human Immunodeficiency Virus (HIV) (23).

Low resilience and a lack of hope for life in sex workers contribute to poorer mental and physical health, which in turn reduces their quality of life. Research has shown that individuals with lower resilience (24) and weaker hope for the future (25) experience a lower quality of life. According to research, the quality of life of female sex workers is considered a major public health concern, and low- and middle-income countries (LMICs) are no exception (26). A systematic review and meta-analysis found that female sex workers from low- and middle-income countries suffer from poverty, low education levels, violence, alcohol and drug use, HIV, and stigma. The authors found that poor mental health was a highly prevalent factor associated with quality of life in this population (27). There is a possibility that sex workers may have more health-related concerns, and their quality of life may be more disrupted due to the impact of sex work on their health, but limited research has examined this issue (28). Given such problems, the use of psychological interventions for these women is important to improve the personal, psychological, and emotional problems of women with a history of sex work who continue to struggle with the problems resulting from sex work. In this research, group logotherapy was used to help these women, a therapy that has been used in interventions, but its efficacy and efficiency for women with a history of sex work has not been studied. Logotherapy, an existential psychotherapy approach developed by Viktor E. Frankl, is based on the belief that the primary motivation of humans is to find purpose and meaning in all circumstances (29). The focus of logotherapy is on the relentless search for meaning, even in the face of suffering, problems, and adversity (30; 31)

The four key principles of logotherapy are: Search for Meaning: Individuals are driven to seek meaning in their lives, in their actions, experiences, and relationships. Freedom of Will: Despite circumstances, individuals have the freedom to choose their attitude towards situations and how they extract meaning from them. Responsibility: Logotherapy emphasizes taking responsibility for life, choosing how to respond to situations, and thus ensuring a sense of purpose and meaning. Suffering and Meaning: Logotherapy emphasizes taking responsibility for life,

choosing how to respond to situations, and thus ensuring a sense of purpose and meaning. Suffering and Meaning: Suffering is viewed as an opportunity to find meaning and transform it into a triumph of the human spirit through the search for purpose (29). Among various therapeutic approaches, logotherapy is recognized for its effectiveness in enhancing mental well-being (29; 32). This approach has shown promise in reducing mental health concerns and fostering a sense of purpose and meaning (33), as well as improving the quality of life for individuals (34). However, the research problem focuses on the application of group Logotherapy to improve the harms and challenges faced by women with a history of prostitution. In addition to examining the effectiveness of this therapy on these women, the study also explores its long-term sustainability. This can be of significance and practical use for therapists and psychologists working to improve the psychological and emotional problems of women with such backgrounds. Based on this, the research aims to answer the question: What impact does group Logotherapy have on the resilience, quality of life, and hope for life in women with a history of prostitution?

#### **Research Method:**

The study employed a quasi-experimental design with a pre-test, post-test control group design, along with a 2-month follow-up. The target population of the present study consisted of women with a history of prostitution who sought help at one of the counseling and psychological services centers in Tehran during the winter of 2023. In this study, Cohen's table was used to determine the sample size. With a 95% confidence level, an effect size of 0.70, and a statistical power of 0.91, a sample of 12 participants was determined for each group. However, considering the possibility of sample dropout and to increase the generalizability of the results, 17 participants were selected for each group. Using purposive sampling, 17 participants were placed in the experimental group and 17 in the control group. The inclusion criteria for the study were a minimum education level of a high school diploma, an age range of 25 to 45 years, no involvement in prostitution during the sessions, and no specific psychological or physical illnesses. Additionally, exclusion criteria included missing more than two therapy sessions, participating simultaneously in other courses, and undergoing other therapeutic interventions during the study. Data analysis was conducted at two levels: descriptive (mean, standard deviation, percentage, and frequency) and inferential (analysis of variance with repeated measures, Bonferroni post-hoc test, independent t-test, and chi-square test). The data were analyzed using SPSS software, version 28. The following tools and questionnaires were used for data collection.

**Connor-Davidson Resilience Scale (CD-RISC):** Developed by Connor and Davidson (35), this scale consists of 25 items and measures an individual's ability to cope with stress in the face of danger or adversity. It comprises five subscales: Personal competence (questions 10, 11, 12, 16, 17, 23, 24, and 25). Tolerance of negative affects (questions 6, 7, 14, 15, 19, 18, and 20). Positive acceptance of change and secure relationships (questions 1, 2, 4, 5, and 8). Control (questions 13, 21, and 22). Spirituality (questions 3 and 8). The scale is scored using a 5-point Likert scale, with the following response options and corresponding scores: Strongly disagree: 0, Disagree: 1,

Neither agree nor disagree: 2, Agree: 3, Strongly agree: 4, The minimum possible score is 0 and the maximum is 100. A higher score indicates greater resilience. The scale's developers examined its discriminant validity against the Arizona Sexual Experience Scale (ASEX) by McGahuey et al. (36) and reported a non-significant correlation coefficient of -0.34. To assess reliability, Cronbach's alpha was used, yielding a coefficient of 0.93 for the entire scale (35). The scale was translated and validated in Iran. After the translation and back-translation process and approval by the scale's designers, Cronbach's alpha was calculated to assess reliability, yielding a coefficient of 0.93. To examine construct validity, factor analysis was conducted, resulting in chi-square/df ratio of 1.563, Comparative Fit Index (CFI) of 0.903, and Root Mean Square Error of Approximation (RMSEA) of 0.053. The scale's reliability was also assessed using Cronbach's alpha, yielding an overall coefficient of 0.82, and subscale coefficients ranging from 0.72 to 0.75. Additionally, a test-retest reliability coefficient of 0.40 was obtained at a two-week interval, which was significant at the 0.01 level (37). In this study, Cronbach's alpha coefficients were reported as 0.80 in the pre-test, 0.83 in the post-test, and 0.90 in the follow-up.

**World Health Organization Quality of Life-BRIEF (WHOQOL-BRIEF):** This questionnaire, developed by the World Health Organization (38), consists of 26 questions and measures five dimensions: Physical health: Questions 3, 4, 10, 15, 16, 17, and 18. Psychological health: Questions 5, 6, 7, 11, 19, and 26. Social relations: Questions 20, 21, and 22. Environment health: Questions 8, 9, 12, 13, 14, 23, 24, and 25. Overall quality of life: Questions 1 and 2. Questions are scored on a 5-point Likert scale: 1 (not at all), 2 (very little), 3 (a little), 4 (a lot), and 5 (very much). Questions 3, 4, and 26 are reverse-scored. The total score ranges from 26 to 130, with a higher score indicating a better quality of life. The cut-off point for the questionnaire is a score of 78 or below. The questionnaire has been translated and standardized in Iran. Cronbach's alpha was used to assess reliability, yielding coefficients ranging from 0.55 to 0.84. Test-retest reliability after two weeks was calculated, resulting in a correlation coefficient of 0.70, significant at the 0.01 level (39). Concurrent validity was also assessed using the General Health Questionnaire (GHQ) by Goldberg and Hillier (40), with Pearson correlation coefficients ranging from 0.45 to 0.83, significant at the 0.01 level (41). In international studies, Cronbach's alpha ranged from 0.81 to 0.92, and intraclass correlation coefficients ranged from 0.35 to 0.72. Confirmatory factor analysis was used to assess the questionnaire's validity, with Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) values of 0.86 and 0.08, respectively (42). In this study, Cronbach's alpha coefficients were reported as 0.91 in the pre-test, 0.90 in the post-test, and 0.93 in the follow-up.

**Adult Dispositional Hope Scale (ADHS):** Developed by Snyder et al. (43), this 12-item scale is designed for adults aged 15 and older. It measures two subscales: agency (questions 2, 9, 10, and 12) and pathways (questions 1, 4, 6, and 8). Questions 3, 5, 7, and 11 are considered distractor items. Each item is rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Therefore, the score range will be between 12 and 48. A cut-off score of 22 has been suggested for this scale. To assess the internal consistency of the scale, Cronbach's alpha was used, yielding coefficients ranging from 0.74 to 0.84. For construct validity, correlations

between the scale scores and those of optimism, goal attainment expectancy, and self-esteem scales were calculated, resulting in coefficients ranging from 0.50 to 0.60, indicating the scale's concurrent validity (44). In international studies, concurrent validity was assessed by correlating the scale with the Life Orientation Test-Revised (LOT-R) by Scheier and Carver (45), resulting in a Pearson correlation coefficient of 0.50, significant at the 0.01 level (46). Cronbach's alpha for the agency subscale was 0.63, for the pathways subscale was 0.80, and for the entire scale was 0.84 (20). In this study, Cronbach's alpha coefficients were reported as 0.82 in the pre-test, 0.73 in the post-test, and 0.90 in the follow-up. Therapy sessions:

The group Logotherapy program consisted of 8, 90-minute sessions for women with a history of sex work. This program was adapted from Schulenberg et al. (47) and its validity and efficacy in Iran have been confirmed in studies such as Didani et al. (48).

**Table 1.** Logotherapy therapy intervention Sessions Adapted from Schulenberg et al. (47)

Session	Subject	Goals and summary of the meeting
First	Introducing and getting to know the group members	Group members and leader will introduce themselves. The leader will then explain the group's purpose, rules, and provide a brief overview of logotherapy.
Second	Working towards understanding one's personal meaning, values, and attitudes	Starting the group by discussing meaning and value. Conducting an attitude-change exercise with the group. Assigning related homework.
Third	Working towards accepting responsibility	Reviewing homework, providing feedback, discussing personal choice, and assigning a new homework task to create a personal choice checklist.
Fourth	Working towards self-awareness of personal values	Initiating the session by discussing the previous homework. Facilitating a group-based values clarification exercise. Providing participants with homework to deepen their understanding of personal values.
Fifth	Identifying Personal Values	Reviewing the homework assignment from the previous session and providing feedback. Continuing with the values clarification technique. Assigning homework to complete a personal values checklist.
Sixth	Continuing Identifying Personal Values	Reviewing the homework assignment from the previous session and providing feedback. Implementing the "mountains range" exercise with group participation.

		Assigning homework to complete a personal values checklist.
Seventh	Identifying the Role of Values in Life	Reviewing the homework assignment from the previous session and providing feedback, conducting a film exercise with the participation of the group members, assigning homework to complete a personal values checklist.
Eighth	Summary and Conclusion of Sessions	Reviewing the homework assignment from the previous session and providing feedback, conducting a comprehensive review of each individual's completed personal values checklist and engaging in a discussion about the personal meaning of life, providing a summary of the sessions and concluding the group work, gathering feedback from group members regarding the group's performance, administering the questionnaires again as a post-test to assess changes over time, and concluding the group and wrapping up the activities.

### Findings:

According to the results, the mean and standard deviation of the age of subjects in the group logotherapy were 32.47 and 4.638, and the mean and standard deviation of the age of the subjects in the control group were 30.65 and 6.864. The t-test statistic obtained by comparing the averages of the 2 groups in the age variable is equal to  $t\text{-test} = 0.908$ , which is not statistically significant ( $\text{sig} = 0.371$ ), which indicates that the 3 groups of The opinion is age. Also, the amount of Chi-Square analysis result from comparing the frequency and percentage of 2 groups in education variable is equal to  $\text{Chi-Square} = 0.786$ , which is not statistically significant ( $\text{sig} = 0.853$ ), which shows It means that the two groups are equal in terms of academic.

**Table 2:** Mean and standard deviation of resilience, quality of life and expectancy by group and stages of measurement

Variables	stage	group logotherapy		control	
		mean	standard deviation	mean	standard deviation
personal competence	pre-test	14.06	0.899	14.29	1.160
	post-test	16.59	1.372	14.41	1.76
	follow up	16.41	1.371	14.47	1.231
tolerance of negative affects	pre-test	12.65	0.996	13.18	0.883
	post-test	15.88	1.269	13.29	0.985

	follow up	15.65	1.730	13.35	1.057
positive acceptanceof change	pre-test	9.24	0.752	9.65	0.606
	post-test	13.12	1.111	9.76	0.664
	follow up	12.82	1.074	9.82	0.728
control	pre-test	5.94	0.827	6.00	0.866
	post-test	10.71	0.985	6.12	0.928
	follow up	10.59	1.176	6.18	0.883
spirituality	pre-test	3.12	0.781	2.76	0.664
	post-test	5.59	0.939	2.94	0.827
	follow up	5.35	1.169	3.00	0.866
total score resilience	pre-test	45.00	1.541	45.88	1.453
	post-test	61.88	1.965	46.53	2.267
	follow up	60.82	3.147	46.82	2.628
physical health	pre-test	20.53	1.125	20.00	1.414
	post-test	23.18	1.074	20.12	1.317
	follow up	23.00	1.173	20.18	1.334
psychological health	pre-test	14.35	0.786	14.41	0.939
	post-test	17.65	2.149	14.53	1.007
	follow up	17.53	2.294	14.59	0.939
social relations	pre-test	8.41	0.618	8.06	0.659
	post-test	10.76	0.752	8.24	0.664
	follow up	10.53	0.943	8.29	0.686
environment health	pre-test	23.35	0.996	23.65	0.862
	post-test	25.88	1.728	23.82	0.883
	follow up	25.59	1.970	23.88	0.993
general health	pre-test	4.76	0.664	4.76	0.562
	post-test	8.65	0.786	4.94	0.659
	follow up	53.8	0.874	5.00	0.791
total score quality of life	pre-test	71.14	1.906	70.88	1.965
	post-test	86.12	3.352	71.65	1.902
	follow up	85.18	4.653	71.94	2.304
agency	pre-test	14.88	0.697	14.53	0.800
	post-test	18.29	1.312	14.65	0.702
	follow up	18.12	1.406	14.71	0.772
pathways	pre-test	14.29	0.920	13.94	0.827
	post-test	17.88	0.799	14.06	0.826
	follow up	17.59	2.093	12.12	0.857
total score expectancy	pre-test	29.18	1.185	28.47	0.357
	post-test	36.18	2.423	28.71	1.263
	follow up	35.71	2.779	28.82	1.334



Table 2 shows the mean and standard deviation of resilience, quality of life and expectancy. After checking the statistical assumptions of repeated analysis of variance, this test was used to analyze the collected data. In order to know whether these changes obtained in the post-test and follow-up are statistically significant or not, repeated-measures analysis of variance was used. The use of this test requires compliance with some basic assumptions, these assumptions include the normality of the distribution of scores and the homogeneity of variances, which were checked first. Shapiro-Wilks test was used to check normality. Since the values of the Shapiro-Wilks test were not significant in any of the stages ( $P < 0.05$ ), it can be concluded that the distribution of scores is normal. Levine's test was also used to check the homogeneity of variances. According to the results, the index of Levin's test was not statistically significant in three stages of evaluation ( $P < 0.05$ ) and thus the assumption of equality of variances was confirmed. The research data did not question the assumption of homogeneity of variance-covariance matrices (Box's Test of Equality of Covariance Matrices); Therefore, this assumption has also been met ( $P > 0.05$ ). The significance level of the interaction effect of group and pre-test was greater than 0.05 and this indicated the homogeneity of the slope of the regression line. Considering that the assumptions of using variance analysis with repeated measurements have been met, this statistical test can be used. Based on the results of Mauchly's Test of Sphericity, the significance level of rumination variable and psychopathological symptoms is equal to 0.001. Therefore, Mauchly's Test of Sphericity has not been confirmed and there has been a violation of the statistical model F. Considering that the assumptions of using variance analysis with repeated measurements have been met, this statistical test can be used. Since the significance level of Mauchly's Test of Sphericity for sleep quality is 0.001, the results are shown in Table 3.

**Table 4:** Mauchly's Test of Sphericity for resilience, quality of life and expectancy

Variables	Mauchly's W	Approx. Chi-Square	df	Sig	Epsilon	
					Greenhouse-Geisser	Huynh-Feldt
personal competence	.309	36.459	2	.001	.591	.620
tolerance of negative affects	.424	26.620	2	.001	.634	.669
positive acceptance	.409	12.942	2	.001	.651	.651
control	.417	27.107	2	.001	.666	.666
spirituality	.493	21.903	2	.001	.703	.703
total score resilience	.629	14.362	2	.001	.679	.679
physical health	.428	26.338	2	.001	.671	.691
psychological health	.071	81.804	2	.001	.537	.537
social relations	.388	29.382	2	.001	.653	.653
environment health	.304	36.907	2	.001	.618	.618
general health	.277	39.826	2	.001	.607	.607
total score quality of life	.394	28.881	2	.001	.656	.656
agency	.233	45.225	2	.001	.591	.591
pathways	.117	66.389	2	.001	.551	.551
total score expectancy	.158	57.174	2	.001	.565	.565

Based on the results of Table 3, it shows that Mauchly's Test of Sphericity for sleep quality is significant at the level of 0.001 (P value is smaller than 0.050). This finding indicates that the variance of the differences between the levels of the dependent variables is significantly different. The assumption of variance analysis of sphericity is not respected. Violation of the default assumption of sphericity causes the F statistic of variance analysis to be inaccurate. To solve this problem and increase the accuracy of the F statistic, the degrees of freedom are corrected using the Greenhouse-Geisser and Huynh-Feldt methods. Which correction method to use, according to the suggestion of Stevens (1996; cited 49), if the epsilon value is greater than 0.75, then Huon-Flat correction and if epsilon is smaller than 0.75 or there is no information about sphericity. Greenhouse-Geisser correction is used. In the present study, the epsilon value for the Greenhouse-Geyser index for sleep quality is smaller than 0.75, so Greenhouse-Geyser epsilon was used. Therefore, taking into account the Greenhouse-Geisser correction, the results of the analysis of variance test with repeated measurements are reported in Table number 5 to investigate the difference of the research sample in the three stages of pre-test, post-test and follow-up of the sleep quality variable.

**Table 4.** Results of tests of within-subjects effects and tests of within-subjects contrasts (Greenhouse-Geisser correction) of resilience, quality of life and expectancy

Variables	Source	F	df	Sig	Partial Eta	Observed Powera
personal competence	group	12.522	2	.001	0.281	0.929
	factor	38.113	1.182	.001	0.544	0.999
	factor * group	30.133	1.182	.001	0.485	0.999
tolerance of negative affects	group	15.959	2	.001	0.333	0.972
	factor	69.763	1.270	.001	0.686	0.999
	factor * group	58.256	1.270	.001	0.645	0.999
positive acceptance of change	group	70.840	2	.001	0.686	0.999
	factor	116.480	1.834	.001	0.784	0.999
	factor * group	99.947	1.184	.001	0.757	0.999
Control	group	107.336	2	.001	0.770	0.999
	factor	221.366	1.264	.001	0.874	0.999
	factor * group	195.545	1.264	.001	0.859	0.999
Spirituality	group	49.182	2	.001	0.606	0.999
	factor	51.938	1.327	.001	0.619	0.999
	factor * group	36.950	1.327	.001	0.536	0.999
total score resilience	group	223.927	2	.001	0.775	0.999
	factor	341.164	1.459	.001	0.714	0.999
	factor * group	282.063	1.459	.001	0.698	0.999
physical health	group	28.449	2	.001	0.471	0.999
	factor	74.188	1.272	.001	0.699	0.999

	factor * group	59.274	1.272	.001	0.649	0.999
psychological health	group	22.031	2	.007	0.408	0.995
	factor	32.263	1.037	.001	0.502	0.999
	factor * group	26.956	1.037	.001	0.457	0.999
social relations	group	67.430	2	.001	0.678	0.945
	factor	68.988	1.240	.001	0.683	0.999
	factor * group	48.239	1.240	.001	0.601	0.992
environment health	group	9.405	2	.004	0.227	0.999
	factor	24.561	1.179	.001	0.434	0.999
	factor * group	17.601	1.179	.001	0.355	0.999
general health	group	131.271	2	.001	0.804	0.999
	factor	196.052	1.161	.001	0.860	0.999
	factor * group	158.287	1.161	.001	0.832	0.999
total score quality of life	group	14.382	2	.001	0.815	0.999
	factor	150.029	1.245	.001	0.824	0.999
	factor * group	116.668	1.245	.001	0.785	0.999
Agency	group	72.082	2	.001	0.693	0.999
	factor	85.366	1.132	.001	0.727	0.999
	factor * group	71.743	1.132	.001	0.692	0.999
Pathways	group	.328	2	.001	0.581	0.999
	factor	47.366	1.062	.001	0.597	0.999
	factor * group	40.133	1.062	.001	0.556	0.999
total score expectancy	group	97.451	2	.001	0.753	0.999
	factor	903772	1.086	.001	0.739	0.999
	factor * group	76.602	1.086	.001	0.705	0.999

The results of Table 4 showed that the group logotherapy has a significant effect on improving the resilience, quality of life and expectancy. In the following, the two-by-two comparison of the pairwise comparisons of the test stages (pre-test, post-test and followup) on the improvement of resilience, quality of life and expectancy to check the durability of the results in the follow-up stage is given in Table 5.

**Table 5. Benferoni post hoc test results of resilience, quality of life and expectancy to study the stability of the results**

Variables	stage	pairwise comparisons	mean difference	stage difference	Sig
personal competence	pre-test	14.176	pretest-posttest	-1.324	.001
	post-test	15.500	pretest-follow up	-1.265	.001
	follow up	15.441	posttest -follow up	0.059	.999
tolerance of negative	pre-test	12.912	pretest-posttest	-1-676	.001

affects	post-test	14.588	pretest-follow up	-1.588	.001
	follow up	14.50	posttest -follow up	0.088	.999
positive acceptanceof change	pre-test	9.441	pretest-posttest	-2.000	.001
	post-test	11.441	pretest-follow up	-1.882	.001
	follow up	1.324	posttest -follow up	.0118	.999
Control	pre-test	5.971	pretest-posttest	-2.441	.001
	post-test	8.412	pretest-follow up	-2.412	.001
	follow up	8.382	posttest -follow up	0.029	.999
Spirituality	pre-test	2.941	pretest-posttest	-1.324	.001
	post-test	4.265	pretest-follow up	-1.235	.001
	follow up	4.716	posttest -follow up	0.088	.934
total score resilience	pre-test	45.441	pretest-posttest	-8.765	.001
	post-test	54.206	pretest-follow up	-8.382	.001
	follow up	53.824	posttest -follow up	0.382	.822
physical health	pre-test	20.265	pretest-posttest	-1.382	.001
	post-test	21.647	pretest-follow up	-1.324	.001
	follow up	21.588	posttest -follow up	0.059	.571
psychological health	pre-test	14.382	pretest-posttest	-1.706	.001
	post-test	16.288	pretest-follow up	-1.676	.001
	follow up	16.59	posttest -follow up	0.029	.999
social relations	pre-test	8.235	pretest-posttest	-1.265	.001
	post-test	9.500	pretest-follow up	-1.176	.001
	follow up	4.412	posttest -follow up	0.088	.999
environment health	pre-test	23.500	pretest-posttest	-1.353	.001

	post-test	24.853	pretest-follow up	-1.235	.001
	follow up	24.735	posttest -follow up	0.118	.466
general health	pre-test	4.765	pretest-posttest	-2.029	.001
	post-test	6.794	pretest-follow up	-2.000	.001
	follow up	6.765	posttest -follow up	.0029	.576
total score quality of life	pre-test	71.147	pretest-posttest	-7.735	.001
	post-test	78.882	pretest-follow up	-7.412	.001
	follow up	78.559	posttest -follow up	0.324	.999
Agency	pre-test	14.706	pretest-posttest	-1.765	.001
	post-test	16.471	pretest-follow up	-1.706	.001
	follow up	16.412	posttest -follow up	0.059	.904
Pathways	pre-test	14.118	pretest-posttest	-1.853	.001
	post-test	15.971	pretest-follow up	-1.735	.001
	follow up	15.853	posttest -follow up	0.118	.227
total score expectancy	pre-test	28.824	pretest-posttest	-3.618	.001
	post-test	32.441	pretest-follow up	-3.441	.001
	follow up	32.265	posttest -follow up	0.176	.308

Based on the results of Table 5, group logotherapy had an effect on improving resilience, quality of life and expectancy and its dimensions in the post-test stage, and its therapeutic effects were lasting and stable after 2 months.

### Discussion and Conclusion:

The aim of the present study was to examine the effectiveness of group logotherapy on increasing resilience, quality of life, and life expectancy in women with a history of prostitution. The results indicated that group logotherapy had a significant effect on increasing resilience in these women during both the post-test and follow-up phases. No studies were found that were directly aligned or misaligned with the results of the present study. However, the findings may be consistent with the research of Gracia et al. (50), Fatchurahman et al. (51), Ameli and Dattilio

(33), and Chan (34), who found that logotherapy (meaning-centered psychotherapy) was promising for individuals. In explaining this result, it can be said that logotherapy extends beyond the psychological domain, reaching into the spiritual realm, enhancing holistic well-being, and has the potential to address mental health issues (31). In group logotherapy, women with a history of prostitution were initially introduced to the fundamental principles of logotherapy. This included understanding that as human beings, they possess the freedom of will and an inherent drive to find meaning in their lives. The focus was on how this quest for meaning is pursued and how basic human desires are challenged by suffering and catastrophe. They explored how much freedom they feel in the face of the pain and misfortunes they experience in their lives. They also examined what meaning they attribute to life when confronted with the evil, violence, suffering, and calamities they witness in their surroundings. (52). Logotherapy also seeks to increase the resilience of women with a history of prostitution by providing a perspective that finds meaning in life's suffering. One of the key objectives of this approach is to help these women discover meaning in difficult situations. From this perspective, a lack of resilience stems from the belief that life is meaningless, and the experience of an empty, purposeless life arises from this lack of meaning. Therefore, in logotherapy, by re-examining individuals' definitions of suffering, they are prepared to face life's challenges and are encouraged to shift their perspective on the world around them. Consequently, it is logical to conclude that group logotherapy has been effective in enhancing resilience in women with a history of prostitution.

On the other hand, the results showed that group logotherapy had a significant effect on improving the quality of life of women with a history of prostitution in both the post-test and follow-up stages. No studies were found that were directly aligned or misaligned with the findings of the present research, but the results may be consistent with those of Ameli and Dattilio (33) and Chan (34), who found the effectiveness of logotherapy (meaning-centered psychotherapy) promising for individuals. To explain these findings, it can be said that logotherapy, by considering the transience of existence and human life, encourages people to strive and take action instead of falling into pessimism and isolation. It emphasizes that what truly overwhelms people is not their suffering or unfortunate fate, but the loss of meaning in life, which is truly devastating. Therefore, group logotherapy consistently motivates individuals to put in more effort and face the challenges and difficulties of various activities. This has led to group meaning-centered therapy being seen as a powerful tool for increasing individuals' engagement in various activities. Therefore, this therapy aims to broaden the perspective of women with a history of sex work so that they can see the meaning and value in their struggles, hardships, and loneliness. This enables them to courageously face and accept their challenges. One of the goals of this therapy is to empower individuals to overcome the painful cycle of life, such as pain, guilt, and suffering, so that participants can discover their unique life purpose. In other words, logotherapy emphasizes the uniqueness of each individual and highlights the ability of humans to transform tragedy into personal triumph and to turn a negative situation into a positive one. When individuals are unable to change a situation, they are taught to change

themselves. Therefore, it is logical to conclude that group logotherapy has a positive impact on the quality of life of women with a history of sex work.

Finally, the results showed that group logotherapy had a significant positive impact on increasing hope in life for women with a history of sex work, both at post-test and follow-up. While no directly comparable research was found, these results align with the findings of Rahgozar & Giménez-Llort (31) and Chan (34), who also highlighted the promising effects of group logotherapy (meaning-centered psychotherapy). This outcome can be explained by the fact that in Frankl's theory of logotherapy, despair arises from a sense of meaninglessness in life. In other words, when an individual perceives their life as meaningless due to their problems and challenges, they experience frustration and hopelessness. They view life as filled with fear that they cannot overcome, and they see themselves as helpless in the face of life's events. An individual who lives without emotional or financial support from others perceives life as meaningless and feels unsupported, without understanding the value and purpose of life. This individual compares their life to others, constantly questioning why their fate is different and why they have to endure suffering, especially the necessity of sex work to survive. One of the primary goals of this therapy is to help these women find meaning in life. When they lack this sense of purpose, they become hopeless. Logotherapy suggests that a meaningful life can provide resilience against even the most challenging life events. Those who have experienced the absence of meaning in their actions or relationships often come to appreciate its significance. By finding meaning, these women can overcome adversity and develop hope for a better future. Therefore, it's logical to conclude that group logotherapy effectively increases hope in women with a history of sex work.

**Research Limitations and Suggestions:** One of the limitations of the study was that at the beginning, some women were concerned about the disclosure of their personal information, and obtaining their consent to participate in the research was challenging. It is suggested that similar studies be conducted in other cities and, in addition to using questionnaires, other tools such as interviews should also be utilized. Furthermore, it is recommended to replicate such studies in other samples, including women with a history of prostitution, with a focus on marital status (single or married), and to make comparisons accordingly. The follow-up phase in this study was two months long, so it is suggested that future research includes a longer follow-up phase (more than six months or even a year) to assess the long-term effects and sustainability of group logotherapy.

**Application of the Research:** Based on the research results, practical suggestions can be made. So that it is suggested that therapists and psychological specialists in this field use such therapeutic interventions to reduce the problems of women with a history of prostitution. Therefore, the Organization of Psychological and Counseling System of Iran and counseling and psychological service centers that are in charge of planning and treatment in the field of psychological, emotional and personality problems of different people can use the results of such research to improve the problems of women with a history of prostitution. Women should experience a newer life and be able to forget their past sufferings and pains by empowering themselves and cope with it better.

**Ethical Considerations:** Ethical considerations have been observed in this research, including obtaining the consent of women with a history of prostitution to participate in therapeutic interventions, assuring them that the answers will not be analyzed individually and their information will be collected as a group. and each person's answer sheet will be confidential. The process and objectives of the study were explained to all of them, they were made aware of the harmlessness and usefulness of the intervention, the participants were made aware of the expertise and competence of the interventionist, the scientific nature of the method was explained to women with a history of prostitution, the possibility free withdrawal was informed at each stage of the study. Also, the control group was explained about the optionality of the participation and the right to withdraw from the research and to answer the questions and to be informed of the results if desired and to provide intensive treatment sessions after the implementation of the follow-up period.

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