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Impact of problem solving training on the adjustment of troubled families

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Abstract:

The present study aimed to investigate the effect of problem solving training on reduction of marital problems of troubled families. The statistical population consisted of 90 families with communication and compatibility problems referring to a counseling center of Tehran City. Among them, 30 maladjusted couples were selected by simple random sampling and formed the sample size. Data collection was done by standardized questionnaire of dyadic adjustment Scale (DAS) that was designed by Spanier (1979) and had 32 questions measuring relationships of (dyadic satisfaction, cohesion, consensus and affectional expression). In the present study, statistical calculations were conducted at the confidence level of 95% (α = 5%) and the test power of 90% (β= 10%) and Δ with moderate impact (0.50). Lawshe`s method (1975) and 6 experts' views (4 advisors and supervisors) were utilized to determine the content validity index (CVI) that was obtained equal to 0.89. To determine the reliability of questionnaire, 32 questions were distributed among the statistical population, and then analyzed using SPSS software; and the Cronbach's alpha coefficient was obtained equal to 0.96 indicating the internal consistency of research. The present study used the pre-test post-test method with a control group; Pearson correlation coefficient was analyzed by the analysis of variance. Statistical analysis at the level of 95% indicated that the problem-solving training was effective in reducing the conflict. There was also a correlation between men and women in terms of the marital adjustment. However, no difference was found between them in the level of being affected by the problem solving training. The marital adjustment was different in men and women.

Keywords: Marital adjustment; problem solving; problem-solving skill training; adjusted couple; maladjusted couple

1- INTRODUCTION

Marital adjustment and satisfaction with marriage are important in a marriage. Marital adjustment is a situation in which couples often have feelings of happiness and consent. Marriage adjustment can be created through a mutual interest, taking care of each other, acceptance, understanding each other, and satisfaction of needs. In other words, the marital adjustment may include the dyadic satisfaction, dyadic consensus, the amount of company and affectional expression, and satisfactory sex with two features namely the continuity and pleasure.

Adjusted couples have high agreement, are satisfied with types and levels of their relations and types and quality of their leisure, and can well manage their time and financial issues.

Adjustment refers to the amount of coordination and agreement between s couple in the field of married life issues; and couples without this coordination have maladjusted and ineffective relationships. "Maladjusted couples are not satisfied with their married life and have incompatible relationships with each other". "Problem-solving" means the familial ability to recognize and talk about issues by correct way as well as improving situations and conditions and help members to deal efficiently with problems. Healthy families have problems as much as unhealthy families, but the healthy ones use problem solving skills more efficiently. Obviously, people, who properly learn problem-solving skills in their families, are better able to solve problems (Halford et la, 2006).

The present research sought to investigate the impact of problem solving training on adjustment of troubled families.

Among all stressful situations for people in their lives, the divorce and marital problems are ranked second and third respectively. Only the death of a spouse or close kinship is close to these two and ranked first (Holmes & Raheh, 2015). Certainly, good relationships cannot be simply gained and need the constant effort. Levinger (2009): What is important

in establishing a good marital relationship or any satisfactory relationship is not your coordination, but it is important how you deal with incompatibilities.

Conflict exists when two people live together as husband and wife. In natural interactions of a couple, there are situations where differences arise or needs are not met. As a result, both partners feel angry, frustrated and discontented with each other. Therefore, if a conflict arises, the husband and wife must prepare for it. This preparation should be based not only on the ability to communicate, but also on the implementation of a systematic problem-solving strategy that provides the structure and order for conflict resolution sessions. Problem solving is an extremely complex cognitive skill that requires higher levels of information processing than other cognitive processes such as language learning and the formation of concepts and represents one of the most intelligent human activities. Problem solving stimulates the attention, perception, memory, and other information processing processes in a coordinated manner to achieve goals; hence, it is considered as one of the most complex solutions to problems of human behavior in the field of clear and well-structured tasks and issues. Problem solving is an applied skill that is now a daily necessity of life.

The main aim of research was as follows: Is the problem solving skill training effective in reducing conflicts between couples and improving the family satisfaction?

1-1- CONDUCT PROBLEMS

The effectiveness of family therapy and family based interventions for four distinct but related categories of conduct problems will be considered in this section.

1-1-1- Oppositional behavioral difficulties

The impact of a variety of formats on the effectiveness of behavioral parent training has been investigated and the results of these studies allow the following conclusions to be drawn. Behavioral parent training is most effective for families with children who present

with oppositional behavioral problems when offered intensively over at least 20 sessions; exclusively to one family rather than in a group format; and as part of a multi-systemic and multimedia intervention package which includes concurrent individual child-focused problem-solving skills training with video-modeling for both parents and children (Kazdin et al, 1992; Webster-Stratton & Hammond, 1997). Such intensive, exclusive, multi-systemic, multimedia programmes are more effective than less intensive, group based, behavioral parent training alone, child-focused problem-solving skills training alone, or video modeling alone with minimal therapist contact. Where a primary caretaker (typically a mother) is receiving little social support from her partner, then including a component to enhance the social support provided by the partner into a routine behavioral parent training programme may enhance the programme's effectiveness (Dadds et al, 1987)

These conclusions have implications for service development. Services should be organized so that comprehensive child and family assessment is available for cases referred where preadolescent conduct problems are the central concern. Where it is clear that cases have circumscribed oppositional behavioral problems without other difficulties, behavioral parent training with video-modeling may be offered to parents and child-focused problem-solving training may be offered to children. Each programme should involve at least 20 sessions over a period of 3-6 months. Where there is evidence of marital discord both parents should be involved in treatment with the focus being on one parent supporting the other in implementing parenting skills in the home situation. Where service demands greatly outweigh available resources, cases on the waiting list may be offered video-modeling based behavioral parent training with minimal therapist contact as a preliminary intervention. Following this intervention cases should be reassessed and if significant behavioral problems are still occurring they should be admitted to a combined 40 session programme behavioral parent training with video-modeling and child-focused problem-solving training.

1-1-2- Attentional and over-activity problems

In terms of service, multi-component treatment packages combined with low dose stimulant therapy are the treatments of choice for youngsters with attentional and over-activity problems. In the short term, effective multi-component treatment should probably include 30 sessions over 12 weeks, with 12 sessions for the family, 12 for the child and 6 liaison meetings with the school. For effective long-term treatment, it is probable that a chronic care model of service delivery is required. Infrequent but sustained contact with a multidisciplinary service over the course of the child's development should be made available to families of children with attentional and overactivity problems. It is likely that at transitional points within each yearly cycle (such as entering new school classes each autumn) and at transitional points within the lifecycle (such as entering adolescence, changing school, or moving house) increased service contact would be required.

1-1-3- Pervasive conduct problems in adolescence

Pervasive and persistent antisocial behavior which extends beyond the family to the community; involves serious violations of rules or law-breaking; and is characterized by defiance of authority, aggression, destructiveness, deceitfulness, cruelty, problematic relationships with parents, teachers and peers and typically leads to multiagency involvement is referred to as conduct disorder (WHO, 1992). Conservative prevalence rates for conduct disorder range from 2% to 6% (Kazdin, 1995).

With respect to service development, it may be most efficient to offer services for adolescent conduct problems on a continuum of care (Chamberlain & Rosicky, 1995). Less severe cases may be offered functional family therapy, up to 40 sessions over a 1 year period. Moderately severe cases and those that do not respond to circumscribed family interventions may be offered multi-systemic therapy up to 20 hours per month over a period of up to 4 years. Extremely severe cases and those who are unresponsive to intensive multi-systemic therapy may be offered treatment foster care for a period of up to

year and this may then be followed with ongoing multi-systemic intervention. It would be essential that such a service involve high levels of supervision and low case loads for front line clinicians because of the high stress load that these cases entail and the consequent risk of therapist burnout.

1-1-4- Adolescent drug abuse

While experimentation with drugs in adolescence is widespread, problematic drug abuse is less common. A conservative estimate is that between 5 and 10% of teenagers fewer than 19 have drug problems serious enough to require clinical intervention (Schinke, Botvin & Orlando, 1991; Liddle & Dakof, 1995; Buckstein, 1995; Pagliaro & Pagliaro, 1996). Drug abuse often occurs concurrently with other conduct problems, learning difficulties and emotional problems and drug abuse is also an important risk factor for suicide in adolescence.

With respect to service development, the results of controlled treatment trials suggest that, a clear distinction must be made between systemic engagement procedures and the process of family therapy, with resources devoted to each. Following comprehensive assessment, where there is clear evidence that factors within the individual or the wider system are maintaining the youngsters drug abuse, a multi-systemic approach should be taken. If youngsters have problem-solving, social skills, or self-regulation sills deficits, training in these should be provided. Where school-based factors are contributing to the maintenance of drug abuse, school based interventions should be offered. Where deviant peer group membership is maintaining drug abuse, alternative peer group activities should be arranged.

1-2- EMOTIONAL PROBLEMS

The effectiveness of family therapy for anxiety, depression and grief following bereavement will be considered in this section.

1-2-1- Anxiety

While all children have developmentally appropriate fears, some are referred for treatment of anxiety problems when their fears prevent them from completing developmentally appropriate tasks such as going to school or socializing with friends. The overall prevalence for clinically significant fears and anxiety problems in children and adolescents is approximately 2% to 9% (Anderson, 1994; APA, 1994; WHO, 1992). With respect to age trends, simple phobias and separation anxiety are more common among preadolescents and generalized anxiety disorder, panic disorder, social phobia, and obsessive compulsive disorder are more common among adolescents (Klein et al, 1998).

1-2-2- Depression and grief

Major depression is a recurrent condition involving low mood; selective attention to negative features of the environment; a pessimistic cognitive style; self-defeating behavior patterns; a disturbance of sleep and appetite; and a disruption of interpersonal relationships (APA, 1994; WHO, 1992; Harrington, 1993; Kovacs, 1997). In community samples prevalence rates of depression in preadolescence range from 0.5% to 2.5% and in adolescents from 2% to 8% while 25% of referrals to child and adolescent clinics have major depression (Harrington, 1993).

Between 3 and 5% of children fewer than 18 lose a parent by death (Garmezy & Masten, 1994). Worden (1997) in a major US study of parental bereavement found that a year after parental death 19% of children continued to show clinically significant grief related adjustment problems. In a UK study Black et al. (1987) found that for children bereaved through the death of a parent, a 6 session home-based family therapy programme which focused on grief work led to significant improvements in both child and parental adjustment in the short and long-term. Sandler et al. (1992) found that a similar family

based programme for bereaved children reduced their depressive symptoms. With respect to practice, therefore, the results of these two studies suggest that following parental death, brief family therapy may be offered to bereaved children who show sustained grief related adjustment problems.

2- Research method:

In this research, statistical calculations were conducted at the confidence level of 95% (α= 5%) and test power of 90% (β= 10%) and Δ with an average impact of 50%. The experimental method of pre-test and post-test was used with the control group.

E: O1 X O2

C: O1 ---- O2

E: Experimental group

C: Control group

O1: Pre-test

X: Problem solving skill training as the independent variable that applies only to the experimental group.

O2: Post-test

2-1-Statistical Population

The statistical population of study consisted of all troubled couples referring to counseling centers in Tehran during 2016-2018. 90 couples, who were adjusted according to our criteria, were selected and then tested. Afterwards, 15 adjusted couples and 15 maladjusted couples were randomly identified.

2-2-Sample and Sampling Method:

Sampling reasons:

1- Description of couples referring to centers
2- Pre-test test for all
3- Selecting troubled couples (sample group)
4- Converting the sample group with a test run to the equilibrium group
5- Teaching the experimental group
6- Comparison of both control and experimental groups

A) Saving time, energy and cost

B) Avoiding increasing the probability of mistakes of questioner and not finding respondents.

C) Results of sampling are equal to referendum results in the case of the observance of its principles and rules.

The sample group consists of two groups:

Experimental group: It consists of 15 maladjusted couples who were selected by random sampling among couples. Participants should be couples; and in many cases, men did not tend to visit of the family counseling, and more importantly participation in the research. The experimental group should meet these conditions:

A) At least a year after their marriage.

B) Their basic complaints about adjustment issues are affected by communication issues and not related to problems of addiction, unemployment, remarriage, etc.

C) Their levels of education should be higher than the secondary school.

D) Their adjustment test scores are a standard deviation below the average.

Control group: It consisted of 15 couples with medium scores in Dyadic Adjustment Scale (DAS), and they expressed their willingness to participate in the research. Given that it was

not clear that their performance was medium in the DAS, 30 couples were tested, and 15 out of 30 couples were selected by a draw from those who gained criterion scores.

2-3-Research tools:

The present research used the standard Dyadic Adjustment Scale (DAS) with 32 questions to collect data.

2-3-1-Dyadic Adjustment Scale

This scale was first developed by Spanier (1979) to assess the quality of marital relationship. It was first a 22-item scale, but then turned into 32 by American and Canadian scholars, and thus it consisted of 32 initial cases related to the adjustment and social behavior measuring the quality of marital relationship in terms of husband and wife. The total score of this tool is used to measure the overall satisfaction in a sincere relationship. The scale measures four dimensions of a relationship: dyadic satisfaction; dyadic cohesion; dyadic consensus; and the affectional expression. By applying changes to this tool, it can be also used for interviewing.

The total score of all questions is between 0 and 151, and the high score indicates a better relationship.

2-4-Reliability and Validity:

A) In Iran, the validity of this scale was obtained equal to 0.96 by split half method and 0.92 through Cronbach's alpha by Hassan Shahi (Hassan shahi, M. (1999).

B) Based on results of a research by Amouzegar and Hosseinnejad (1995) in Iran, its validity was 0.86 in total scores through the retest test in two runs; and 0.68, 0.75, 0.71 and 0.61 for the first, second, third, and fourth sub-scales respectively. The total score of scale was 0.96 through Cronbach's alpha indicating a significant internal consistency.

Lawshe's method (1975) and 6 experts' views (4 advisors and supervisors) were used to determine the validity of questionnaire; and the content validity coefficient (CVI) was 0.89.

Table 1: Calculating the Content Validity of the Research Measurement Tool

Number of questions	N	E	CVI	Number of questions	N	E	CVI
1	6	6	1	17	6	5	0.67
2	6	5	0.68	18	6	5	0.67
3	6	6	1	19	6	6	1
4	6	6	1	20	6	6	1
5	6	5	0.67	21	6	6	1
6	6	5	0.67	22	6	5	0.67
7	6	6	1	23	6	6	1
8	6	6	1	24	6	6	1
9	6	6	1	25	6	6	1
10	6	5	0.67	26	6	5	0.67
11	6	5	0.67	27	6	6	1
12	6	6	1	28	6	6	1
13	6	6	1	29	6	6	1
14	6	5	0.67	30	6	6	1
15	6	6	1	31	6	5	0.67
16	6	6	1	32	6	6	1
Sum							28.37

$$CVI=\frac{\sum CVI}{N}=\frac{28.37}{32}=0.89$$

2-5-Research implementation

In coordination with managers of counseling centers and obtaining the consent of clients of these centers, the issues of marital and communication adjustment were investigated in cooperation with investigators of the experimental group. The control group was determined by conventional sampling and parents of students who expressed their willingness to participate in the research. Using a questionnaire, 30 couples were divided

into two equal groups (control and experimental groups); and the variance homogeneity of groups was confirmed using the Hartley's Test for Variance Homogeneity.

15 couples of experimental group and 15 couples of control group implemented the DAS test, the phase of problem-solving skill training workshop started for 15 couples of the control group after confirming the status of groups in terms of low score of adjustment. This workshop was conducted in six sessions and a 90-minute session per week. One week after the last session, a post-test was performed on both experimental and control groups.

2-6-Data analysis method

Descriptive and inferential statistics were used to analyze data. The mean, median, frequency tables, diagrams and motion dispersion indices as well as standard deviation and variance were used in the descriptive statistics; and the correlation coefficient test, t-test and factor analysis of variance were used in inferential statistics.

3-Finding

3-1-Descriptive data analysis

Table 2: Demographics of subjects (age and education)

		Experimental Group		Control Group	
		Male	Female	Male	Female
Age in years	20-30	5	8	5	7
	31-40	7	5	7	6
	41 and over	3	2	3	2
Education level	Under high school diploma	4	3	7	6
	high school diploma and associate degree	6	7	4	5
	Bachelor's degree and higher	5	5	4	4

According to Table 2, subjects were identified in experimental and control groups in terms of age (20, 30, 40 and above) and education levels (under high school diploma, high school diploma, associate degree, and Bachelor's degree and higher).

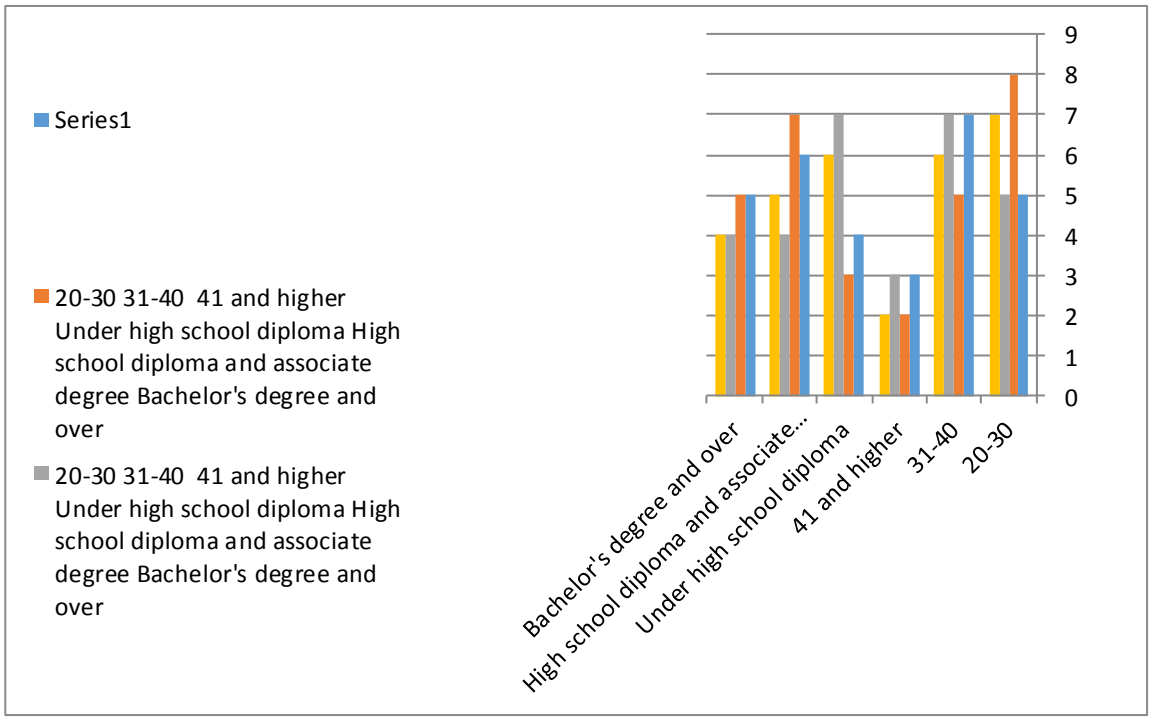

Diagram 1- Demographics of subjects in terms of age and education

Table 3: Subjects are put into in experimental and control groups in terms of age

		Experimental Group		Control Group	
		Male	Female	Male	Female
Age in years	20-30	5	8	5	7
	31-40	7	5	7	6
	41 and over	3	2	3	2

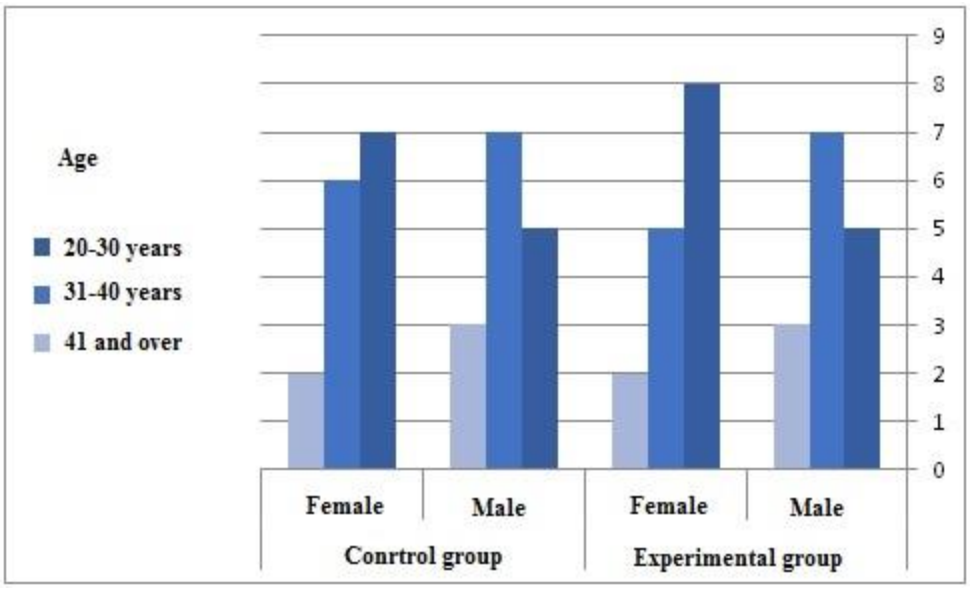

Diagram 2- Demographics of subjects in terms of age

Table 4: Subjects are put into experimental and control groups in terms of education levels

		Experimental Group		Control Group	
		Male	Female	Male	Female
Education level	Under high school diploma	4	3	7	6
	High school diploma and associate degree	6	7	4	5
	Bachelor's degree and higher	5	5	4	4

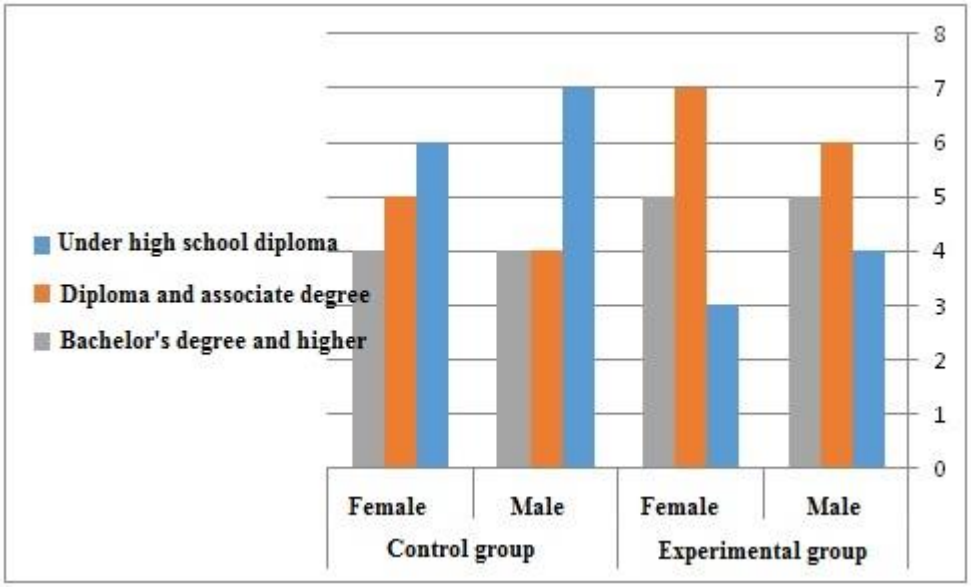

Diagram 3- Demographics of students in terms of education levels

Table 5: Demographics of subjects (duration of marriage and number of children)

		Experimental Group	Control Group
Duration of marriage	Less than 2 years	5	4
	2-5 years	6	7
	More than 5 years	4	4
Number of children	No child	3	1
	1	5	4
	2	6	8
	4 and more	1	2

According to Table 5, subjects are identified according to duration of marriage and the number of children in experimental and control groups.

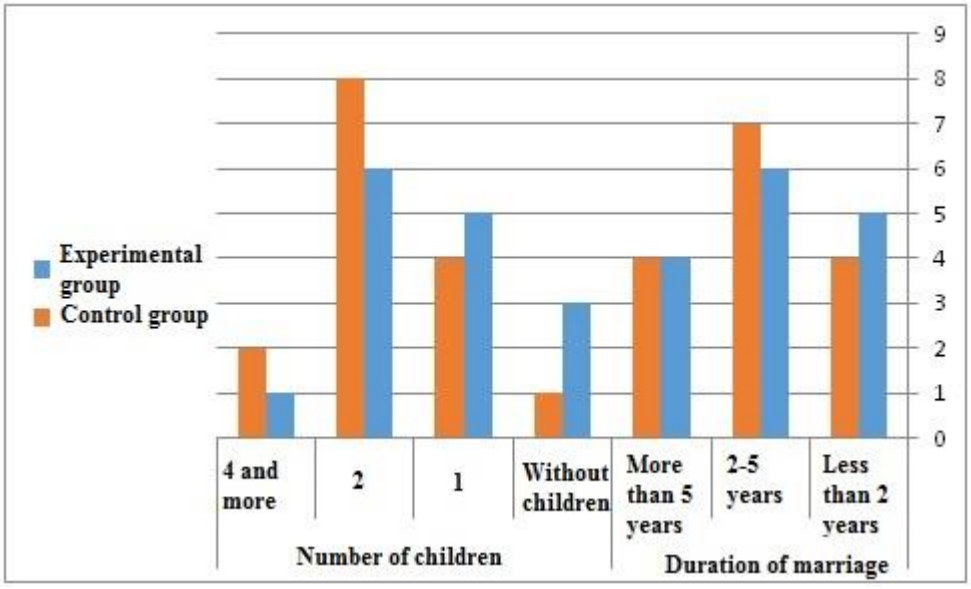

Diagram 4- Demographics of subjects in terms of duration of marriage and number of children

Table 6- Subjects are put into experimental and control groups in terms of duration of marriage

		Experimental group	Control group
Duration of marriage	Less than 2 years	5	4
	2-5 years	6	7
	More than 5 years	4	4

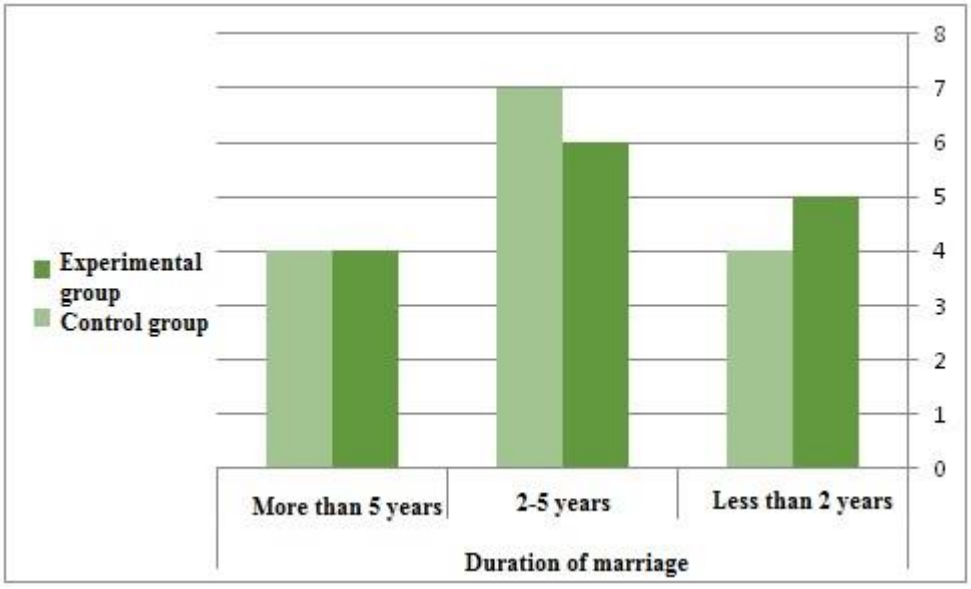

Diagram 5: Demographics of subjects in terms of duration of marriage

Table 7- Subjects are put into experimental and control groups in terms of number of children

		Experimental group	Control group
Number of children	Without children	3	1
	1	5	4
	2	6	8
	4 and more	1	2

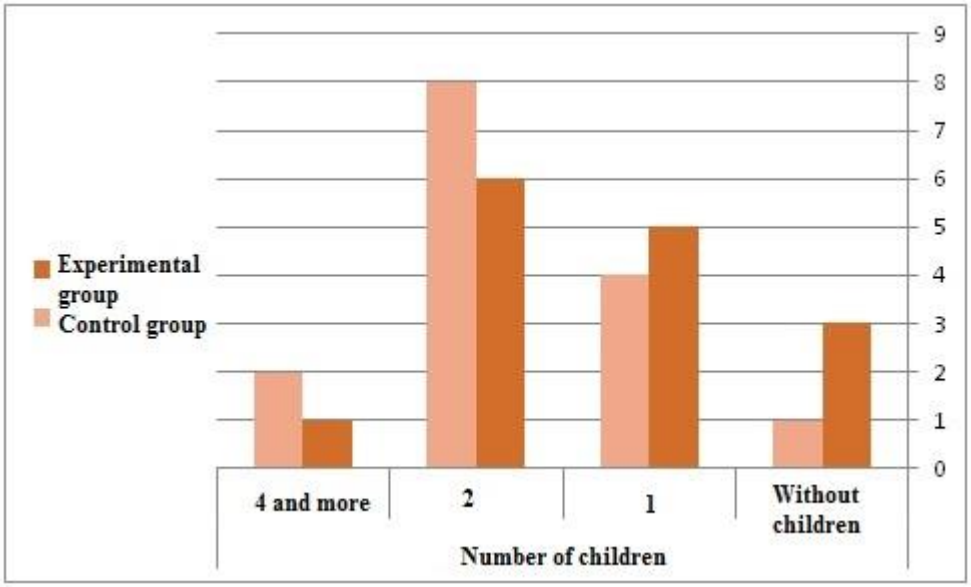

Diagram 6: Demographics of subjects in terms of number of children

Table 8: The experimental group

Group	Gender	Order of test	Mean	Standard deviation
Experimental	Male	Pre-test	101	2.56
		Post-test	109.93	9.95
	Female	Pre-test	104.87	4.44
		Post-test	121.27	0.81

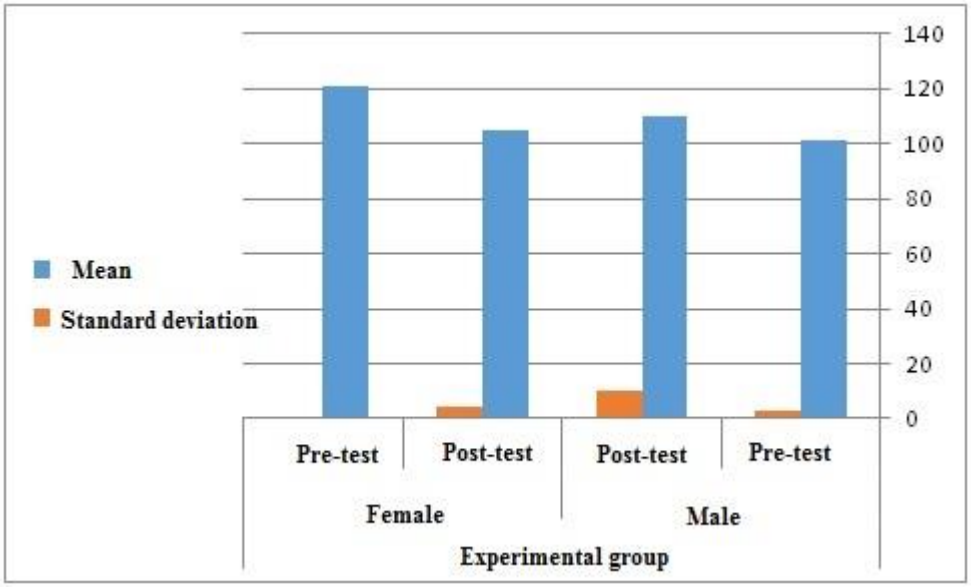

Diagram 7- Experimental group

Table 9- Control group

Group	Gender	Order of test	Mean	Standard deviation
Control	Male	Pre-test	127.13	5.80
		Post-test	128.06	5.67
	Female	Pre-test	127.40	5.05
		Post-test	128.06	5.67

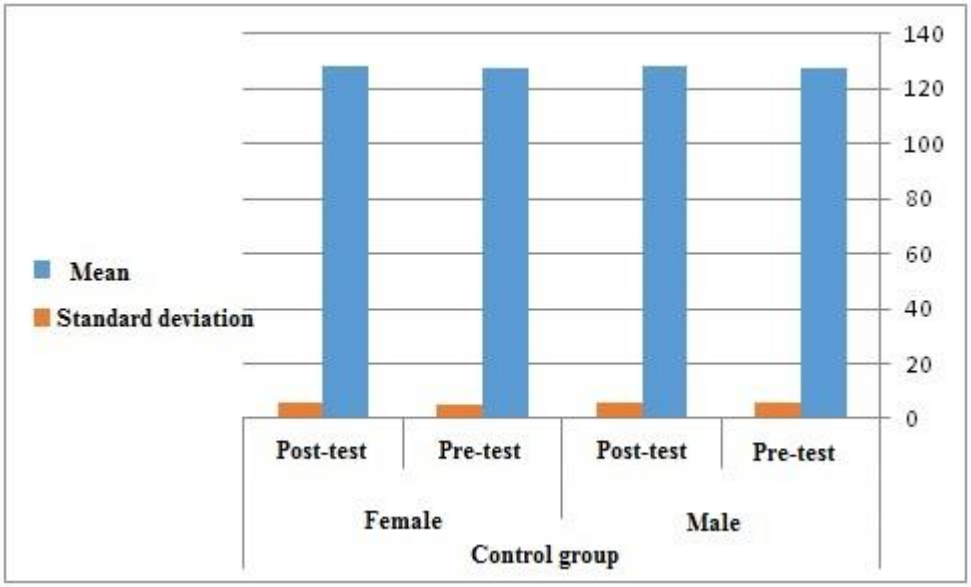

Diagram 8- Control group

As presented in Table 9, the mean control group, which consists of apparent adjusted couples and families, is much more the mean of experimental group in the pre-test, but the performance of experimental group is much better in the post-test of problem-solving skill training though this gap is still high especially in men. Education seems to be less effective in men.

Table 10: DAS Scale and its subscales based on the experimental group and the test order

	Group	Mean		Standard deviation		Minimum		Maximum	
		Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Dyadic satisfaction	Experimental	36.67	40.80	2.35	2.34	32	35	40	43
	Control	42.2	42.4	2.15	2.35	38	37	46	46
Dyadic cohesion	Experimental	17.47	21.26	1.68	1.75	15	18	20	24
	Control	20.93	21.41	1.33	1.24	19	20	23	24
Dyadic consensus	Experimental	40.67	46	1.99	2.45	38	43	44	50
	Control	51.13	51.13	2.17	2.06	48	46	55	54

Affectional expression	Experimental	8.13	12	1.60	1.9	6	9	11	14
	Control	11.40	11.87	1.35	1.25	10	9	14	14
Total score of DAS	Experimental	102.93	120.07	2.52	351	96	115	106	129
	Control	125.67	126.80	3.27	4.16	117	118	133	133

As shown in Table 10, the mean scores of experimental group are increased in subscales and the total DAS in the post-test compared to the pre-test. This increase is obvious both in the lowest and highest scores. In the control group, pre-test and post-test are slightly changed with rise and fall. The significant increase in test scores should be checked by statistical tests.

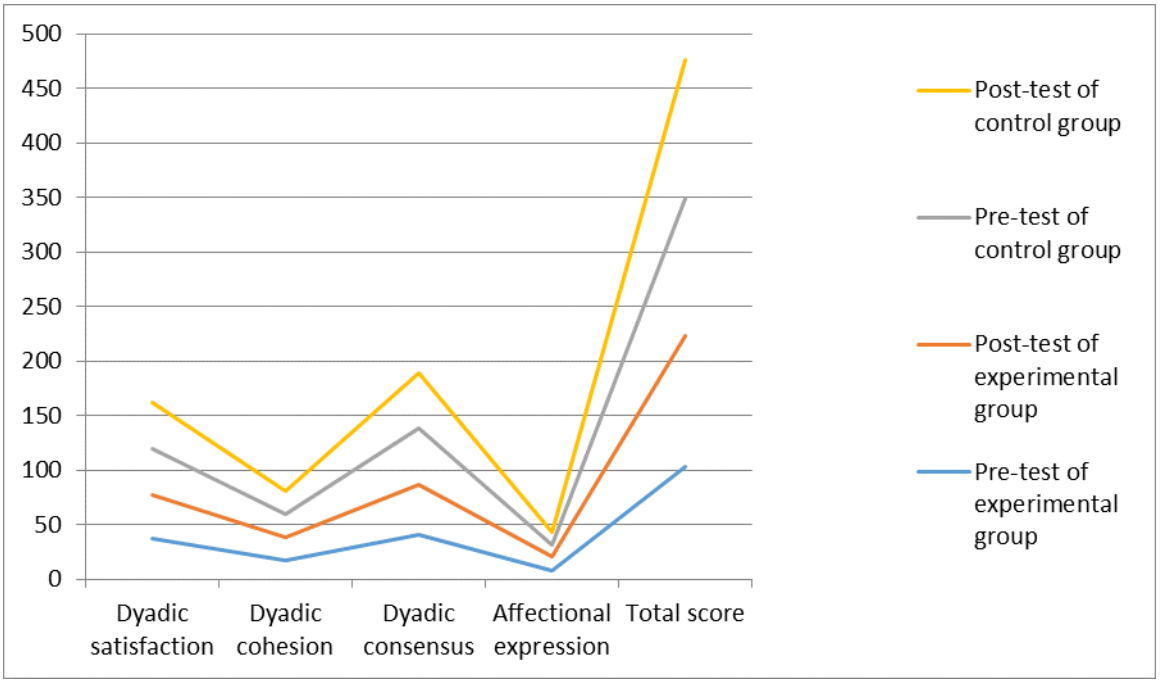

Diagram 9: Linear diagram for DAS Scale and its subscales based on the group

3-2-Inferential data analysis

3-2-1-The first hypothesis:

Problem-solving training improves the marital adjustment.

Table 11: Differences in pre-test and post-test scores

Group	Number of couples	Mean difference of pre-test with post-test	Sd of difference of pre-test with post-test	Sd of mean difference of pre-test with post-test
Experimental	15	17.13	5.78	1.41
Control	15	1.13	2.77	0.72

As shown in the table above, the mean difference in adjustment score of experimental group of the post-test was increased to 17.13, while this increase was only 1.13 scores for the control group and it can be attributed to factors like time and familiarity with the test and random factors.

Table 12: T-test for independent groups for the difference between mean scores of pre-test and post-test

	Levene's test for equality of variances		t-test for equality of variances				
	F	Significance	T	Degree of freedom	Significance	Mean difference	Standard deviation of difference
Homoscedasticity	2.74	0.11	10.09	28	000	16	1.58
Heteroscedasticity			10.09	20.74	000	16	1.58

T-test is performed by measuring differences in subjects' scores in the pre-test and post-test and comparing with independent groups. As presented in the table above, the observed t is $t_{(\alpha=0.05,df=28)}=10.09$ for the mean differences of pre-test and post-test for experimental and control groups and it is higher than t of table $t_{(\alpha=0.05,df=28)}=2.467$.

H0: $\mu_1-\mu_2= 0$

H1: $\mu_1-\mu_2\neq0$

Consequently, the first hypothesis based on the effectiveness of problem-solving skill training in increasing the couples' adjustment is confirmed, but the null hypothesis based on the non-influence of this training on the increase in marital adjustment was rejected. In other words, it can be claimed that problem-solving skill training increases the marital adjustment at the probability level of 95%.

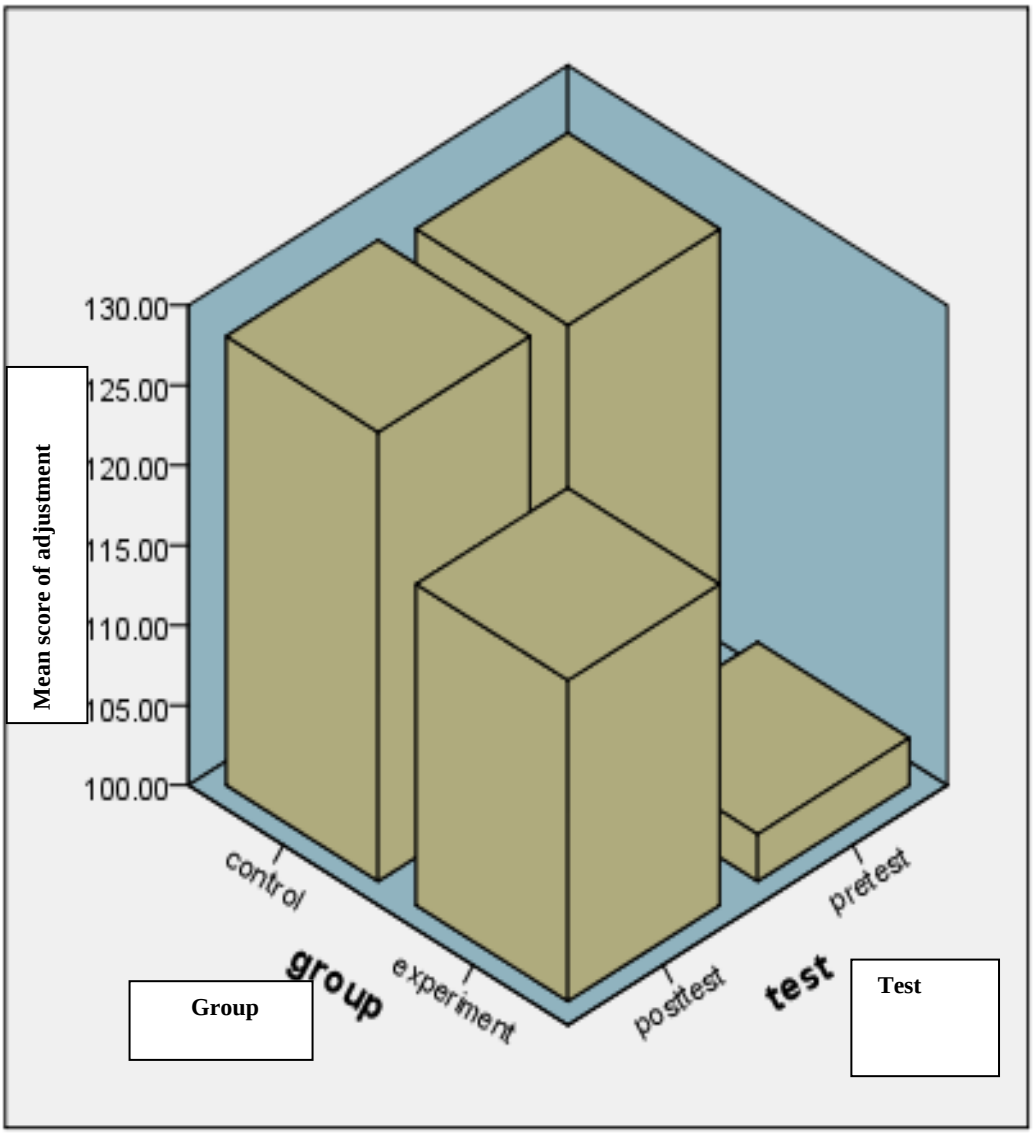

Diagram 10: Bar chart for the mean adjustment scale based on the subject and test groups

3-2-2-Second hypothesis:

There is a significant correlation between gender and marital adjustment (control and experiment).

Table 13- Pearson Correlation Coefficient for gender and marital adjustment variables

	Mean	Standard deviation	Number	Correlation	Control	Experiment
Control	122.90	6.43	30	Pearson correlation coefficient	1	0.563
				Two-range significance		0.001
				Number	30	30
Experiment	123.97	5.01	30	Pearson correlation coefficient	0.563	1
				Two-range significance	0.001	
				Number	30	30

As shown in the table above, Pearson correlation coefficient is equal to r(α=0.01, df=28)=0.563 for gender variables and marital adjustment, and it is higher than r of Table [r(α=0.01,df=28)=0.4487]

H0: $\rho 1 - \rho 2 = 0$

H1: $\rho 1 - \rho 2 \neq 0$

Therefore, the second hypothesis based on the correlation between gender and marital adjustment variables is confirmed, but the null hypothesis based on the lack of correlation between these two variables is rejected. In other words, there is a correlation between these two variables, gender and marital adjustment, at the probability level of 99%.

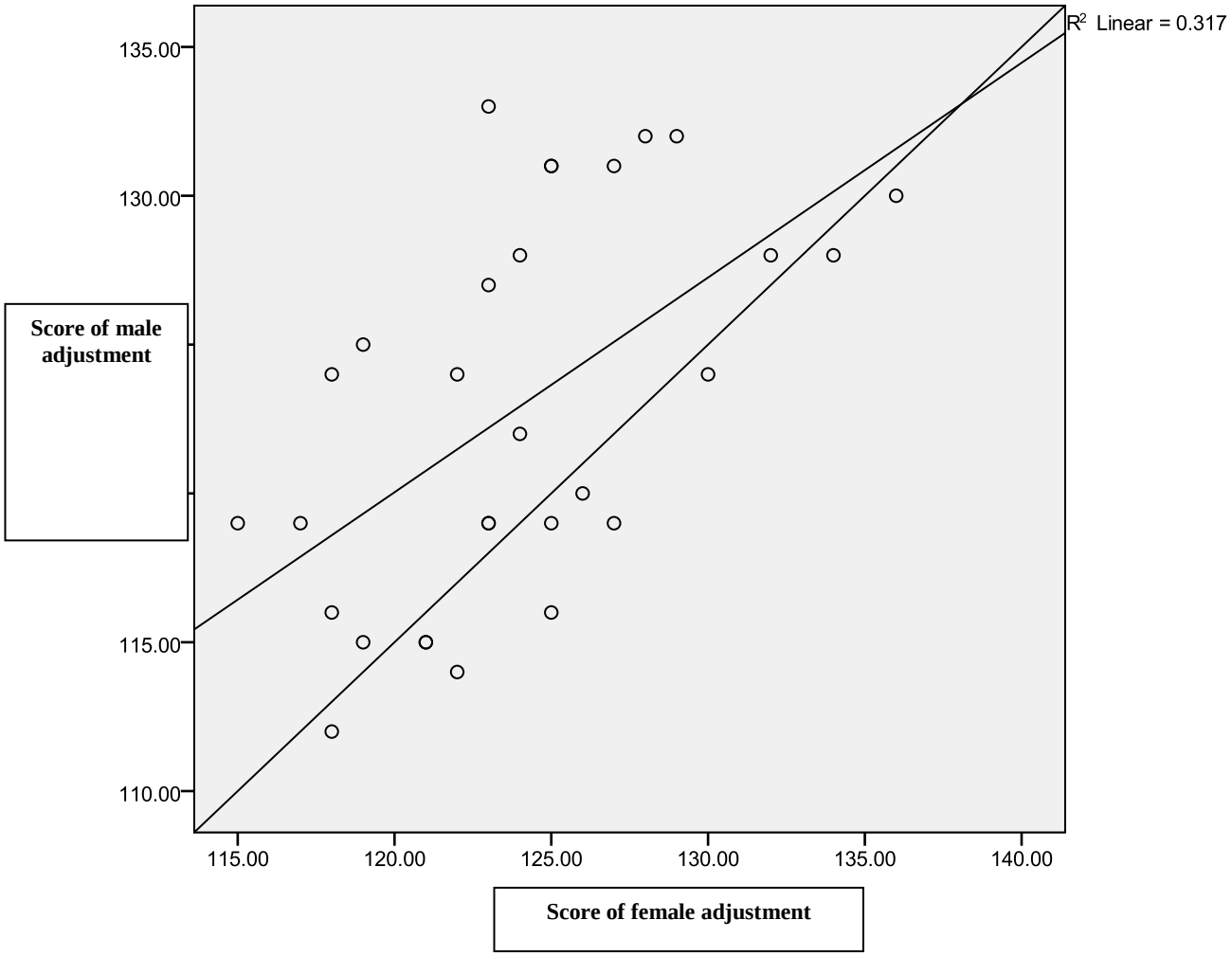

Diagram 11: Correlation and dispersion of DAS scores in males and females

3-2-3-Third hypothesis:

There is a significant difference between effects of problem-solving skill training on the gender-based marital adjustment

Table 14: Analysis of variance of mean difference of the impact of problem-solving training on the gender-based marital adjustment

Source	Sum of squares	Degree of freedom (df)	Mean square	F	Significance level (Sig)
Adjusted model	12409.57	7	1772.80	73.71	0.000
Intercept	1716020	1	1716020.83	71352.22	0.000
Group	7840.83	1	7840.83	326.02	0.000
Gender	80.03	1	80.03	3.33	0.71
Test	2412.03	1	2412.03	100.29	0.000
Group*gender	67.50	1	67.50	2.81	0.097
Group* Test	2000.83	1	2000.83	83.19	0.000
Gender*Test	5.63	1	5.63	0.234	0.629
Group*Gender*Test	2.70	1	2.70	0.112	0.738
Error	2693.60	112			
Total	1731124	120			
Total adjusted value	15103.17	119			

As shown in the table above, the effects of group (experimental and control), test (pre-test and post-test), and the interactive effect of group and are significant in the analysis of variance, but effects of gender, and interactive effects; gender and group; gender and test; and gender, group, and test are not significant. Since the observed F-value $F(\alpha/2=0.05, df112,1)= 2.70$ is lower than the F of table ($F(\alpha/2=0.05, df112,1)= 3.92$, the research hypothesis is rejected, and the null hypothesis based on the lack of difference in the impact of problem solving skill training on the basis of gender is not rejected. In other words,

there is no difference between males and females in the impact of problem-solving skill training on the marital adjustment.

3-2-4-Fourth hypothesis:

The degree of marital adjustment varies according to gender.

Table 15: t-test for independent groups for gender differences in the marital adjustment

	Levene's test for equality of variances		t-test for equality of variances				
	F	Significance	T	Degree of freedom	Significance	Mean difference	Standard deviation of difference
Homoscedasticity	0.68	0.41	-2.56	58	0.013	-7.97	3.12
Heteroscedasticity			-2.56	58	0.013	-7.97	3.12

To test this hypothesis, the pre-test scores of subjects were used in both experimental and control groups. As shown in the table above, the observed t for the mean difference of DAS subscale for men and women is $t(\alpha=0.05,df=28)= -2.56$ that id higher than the t of table $[t(\alpha=0.05,df=28)=2]$.

$H0:\mu1-\mu2=0$

$H1:\mu1-\mu2\neq0$

Consequently, in the fourth hypothesis, the hypothesis about the different marital adjustment scores of men and women is confirmed, but the null hypothesis about the difference of marital adjustment in terms of gender is rejected. In other words, it can be claimed that the gender factor is likely effective in the marital adjustment at the probability level of 95%.

4-Discussion and conclusion

The first hypothesis was based on the effectiveness of problem solving skill training in increasing the couples' adjustment, and rejected the question about the lack of effect of this training on increasing the marital adjustment. In other words, the problem-solving skill training is effective in increasing the marital adjustment at the probability level of 95%. In previous studies, for example, Vincent et al. (1975) found that unsuccessful couples significantly showed less positive problem solving behavior and more negative problem solving behavior than successful couples. Different researchers have successfully used problem solving training in the treatment of marital adjustment (Sternberg et al, 1981). Jakobson (1977) treated a group of ten unsuccessful couples using a set of problem-solving training and attachment commitment practices.

Therefore, training problem-solving skills is effective in increasing the marital adjustment with respect to internal and external research.

The second hypothesis based on the correlation between couples' marital adjustment was confirmed. The question about the correlation between these two variables was not confirmed. In other words, it is likely that there is a correlation between two variables namely the gender and marital adjustment. The relationship between men and women is a two-way relationship in the marriage. The question seems to be so obvious that even the research subject has not been addressed; hence, this question is raised in this research: To what extent the male adjustment model (as a group) is changed in the case of increasing the female adjustment (as a group)? This correlation exists according to research findings. According to previous studies such as the research by Esmat Danesh (2004) on the effect of Islamic self-knowledge in increasing the level of marital adjustment in Iran, results indicated that the self-knowledge increase significantly improved the marital adjustment of experimental group than before consulting with the control group. Yalissen and Carahan (2007) conducted a research entitled "Couple communication program" and found that the communication skill training program had a positive effect on the marital adjustment.

Therefore, there is a correlation between male and female in terms of marital adjustment according to internal and external research.

As presented in the fourth chapter, effects of groups (experimental and control) and tests (pre-test and post-test) and the interactive impact of group and test were approved in the analysis of variance. However, the effect of gender and interactive effects of 1. Gender and group, 2. Gender and test, and 3. Gender, group and test were not approved, but the question about the lack of difference in the impact of problem-solving skill training on the basis of gender was confirmed. In other words, there is probably no difference between male and female in the impact of problem-solving skill training on the marital adjustment. According to other studies including problem solving and marital adjustment practices such as Mazaheri's reserach (2001), there was no significant difference between scores of marital adjustment and problem-solving methods in terms of gender variable through variance of analysis. Bahloli-Asl (2010) did not report any significant relationship between gender and marital satisfaction in the research on the predictive role of personality traits and marital satisfaction on the job satisfaction.

Therefore, the question about the impact of problem solving skill training on the gender-based adjustment is accepted; hence, the problem-solving skill training affected the gender.

In the fourth hypothesis, the question about the difference in marital adjustment scores of men and women is confirmed, but the about the lack of gender-based maturity adjustment is rejected. It can be claimed that the gender factor is most likely to be effective in the marital adjustment. Previous studies on this finding have provided opposite results. Taleshi (1990) reported the lack of a significant difference between marital adjustment of men and women. On the contrary to the present study, Ellson (2004) declared the higher marital adjustment of men than women. When we encounter such different results in the research, it is difficult to provide a basic theory. The difference in the result of Ellson's work with this research can be attributed to the cultural factor. In other words, despite the higher marital adjustment of men or women in some countries, it is not probably similar to Iran,

and there is no significant difference between men and women in terms of the marital adjustment. Many theories on the marital adjustment and gender are consistent with findings of the present research. According to Lewinsohn (1996), women are more likely to love interpersonal relationships than their husbands, and thus they are more likely to resolve maladjustment or seek to utilize out-of-home resources and professionals before men.

According to the previous research, the gender can affect the marital adjustment.

Suggestions

According to the first hypothesis and research results, the following cases are suggested:

1- It is suggested teaching problem solving skills to families and couples by different counseling centers in order to increase the couples' adjustment.

According to the second hypothesis and research results, the following cases are suggested:

1- Since the marital adjustment is higher in women than men, problem-solving training should be provided within families
2- It is also better to select different problem-solving methods to check the possibility of comparing them.

According to the third hypothesis and research results, the following cases are suggested:

1- The effect of problem solving skill training on the marital adjustment varies according to gender; hence, planners are suggested considering this point in the implementation of skills and planning based on the differences.

According to the fourth hypothesis and research results, the following cases are suggested:

1- Given the difference in male and female marital adjustment scores, this skill should be taught within the family or with men and women.

2- Given that these skills can be effective from the early years of life, these skills should be taught to students at schools.

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