

The Effect of Life Skills Training on Mental Health and Locus of Control of Deaf Female Students in Kerman

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The present study investigates the effects of life skills training on the mental health and locus of control of hearing impaired female students. The population of the study included 90 female secondary school students at the Kerman Farzaneh Educational Center, out of which 80 students were randomly selected and assigned to two groups of 40 (control and experimental groups). After taking the Goldberg General Health Questionnaire and Levenson's self-report measure for assessing locus of control, the 40 participants in the experimental group were divided into four groups of 10 and were given treatment (life skills training). Participants in both the experimental and control groups completed the questionnaires after the training phase again. Results indicated that while life skills training led to the improved general health of deaf students ($p < .000$), it did not have any significant effect on their locus of control. It seems that life skills-centered training programs not only improve the deaf students' general health and decrease their mental problems but also play an important role in primary prevention.

Keywords: life skills, general health, locus of control, deaf students

Both education and mental health follow the same goal which is to improve the health of human beings (Shamlou, 2004). Preparing people, especially the new generation, to face life difficulties is a matter of considerable concern. To this end,

psychologists, supported by national and international organizations, have been taking measures for the prevention of psychological diseases and social disorders by teaching life skills in schools throughout the world (Ghias Fakhry, 1999).

Owing to the importance of life skills training in the prevention and improvement of mental health, the lack of these skills makes a person react inappropriately to stress. The instruction of these skills creates a sense of self-efficacy, satisfaction, empowerment and usefulness in children and adolescents. These factors help them overcome problems (Taromian, 2000).

The internal locus of control has a positive relationship with psychological health and life satisfaction. Individuals with an internal locus of control suffer from less psychological stress in life. Individuals with an internal locus of control attribute their success and failures to their own efforts, efficacy, and responsibility. Therefore, the belief that they have the ability to control their own life and overcome problems provides them with mental health. Conversely, those with an external locus of control attribute every success and failure in their life to factors such as chance and fate. They believe that they have no control over their life and that whatever happens in their life is caused by external factors (Rutter et al, 1999).

Deaf people, especially in their adolescence, pass a very critical period of growth as well as social and psychological development. In this period there is a strong need for emotional and sentimental balance, especially important is the need to keep a balance between emotions and senses. The special needs of this period are as follows: attaining self-awareness, making an effective relationship, choosing the real goals of life, keeping a balance between psychological and emotional needs when

facing environmental stresses, finding sympathy, and achieving problem solving ability (Ennett, 1994).

Klinike (2002) states that factors such as self-esteem, interpersonal skills, setting goals, making decisions, problem solving and recognizing individual values play important roles in preventing adolescents from being afflicted by different kinds of behavioral and psychological disorders. Thus, mental health will improve.

Deaf students not only prepare themselves for a social life similar to that of other people but they also have to find a way to communicate with others. Those having difficulty in hearing wish to have a happy life. They try to live independently and take care of themselves (Ennett, 1994).

In recent years, mental health in Iran, as in other countries, has been a matter of concern both for the authorities and for the general population. Despite the little attention paid to hearing disorders compared to other kinds of disabilities, the psychological consequences of hearing-impaired individuals are much more than those of other individuals with other kinds of disabilities such as visual impairments (Saadipour, 1999). Deaf people are subject to mental disorders and commit suicide at a higher rate than do the blind (Saadipour, 1999)

Paying attention to the mental health of the deaf is of critical importance as they are exposed to more severe dangers due to their hearing problem (Seif Naraghy, 2004).

Convertino, Marschark and Sapere (2009) studied the relationship between the gaining of social skills in deaf students and their social performance and communication in different populations and levels. Finally, they came to know that deaf students who have acquired social skills are more successful in social communication.

Coll (2009) studied the risky behaviors of the adolescents with hearing difficulties and found that most of them are cheated more and have more tendencies towards fraud, rape and law breaking compared to their peers with no hearing impairment. They also found that they could control the tendency of the deaf to break laws via social skills training. Coll (2009) came to the understanding that deaf adults, who had learned how to control their rage and excitement, had better mental health than those under no training.

Method

Study Objective

Investigating the effect of life skills training on the mental health and locus of control of deaf female students.

Study hypotheses

Gaining of life skills affects:

1. Mental health of deaf students
2. Anxiety in deaf students
3. Depression among deaf students
4. Somatic syndromes of deaf students
5. Social dysfunction of deaf students
6. The locus of control of deaf students
7. Internalizes the locus of control of deaf students

Population, Sample and Sampling

The population of the present study included 90 students of Kerman Training Center of the Deaf, out of which 73 students were selected based on the Morgan table. However, to prevent the effects of participant dropouts and subject attrition, 80 students were selected randomly. They were randomly divided into 2 groups of 40 (control group and experimental group).

Subjects in each group answered items of the internal-external locus of control scale as well as a test of mental health (pre-test) and then they received training where the experimental group was divided into four groups of 10. After the end of training both groups answered to items of the internal-external locus of control scale as well as a test of mental health (post-test).

Instruments

1. Goldberg's (1989) General Health Questionnaire (GHQ)
2. Levenson's (1972) self-report measure for assessing locus of control

Reliability and Validity of the Instruments

Both Goldberg's General Health Questionnaire (GHQ) and Levenson's locus of control measure have been tested and proved to be reliable through numerous studies.

As reported by Palahang, Barahany, Nasr, and Shahmohammadi (1996), the reliability of the GHQ has been estimated to be around 91 percent (cited in Kalafi, Ostovar & Haghshenas, 1999).

Brandt (2000) states that Goldberg's General Health Questionnaire (GHQ) is valid and is the best instrument to measure mental health conditions. The internal reliability of the 12-item scale of this questionnaire is 90 percent which is more than 86 percent reliability reported in 1989.

Levenson (1981) reported the reliability of the three scales (C, P, I) ranging from 51 to 77 percent using Richardson-Cowders correlation coefficient. Meanwhile, estimating the reliability through the split-half method using Brown-Spearman correlation coefficient for the three scales (C, P, I) has been 62%, 64% and 66%, respectively (cited in Farahani, 1996).

Also, substantial reliability for Levenson's subscales is reported by other researchers (e.g, Farahani, 1996; Cooper & Jeen, 1999).

Research Design

The design of the present research is based on the experimental method using posttest-pretest control group and random selection and assignment of the participants. The following diagram shows the schematic design of the present study:

	Post-Test	Independent Variable	Pre-Test	Random Selection
Experimental Group	T ²	X	T ¹	R
Control Group	T ²	—	T ¹	R

Data Analysis

First, the mental health (anxiety, depression, somatic syndrome and social behavior disorder) and locus of control (internal factor, powerful others and chance) in the students who received life skills training (experimental group), and the ones who did not receive that training (control group) were presented using the frequency tables, descriptive statistics and pretest-posttest scores. Then the analyses of variance and multivariate analysis of covariance (ANCOVA and MANCOVA) were calculated to determine the effect of life skills training on the mental health and the locus of control of the deaf students.

Results

The effect of life skills training on the mental health and locus of control of the deaf students was measured through multivariate analysis of covariance (MANCOVA).

In the multivariate covariance analysis table (Table 1) the estimated p-value is less than the significance α level of .05 ($\alpha = .05$); thus there is a significant difference between the means of linear combination of post-test scores in experimental and control group. Accordingly, life skills training had a significant effect on mental health and locus of control. So, considering Eta squared estimates, the effect of life skills training was 82.5%. Also, considering the estimated p-value, only scores of mental health pre-test had a significant effect on the linear combination of mental health and locus of control posttest scores (Table1).

Table1
Multivariate Covariance Analysis for Effect of Life Skills Training on Mental Health and Locus of Control Based on Posttest Scores

Effect	Test	Value	F	Degrees of freedom		P-value	Eta Squared
				Hypothesis	Error		
Mental Health Pre-Test	Pillai's Trace	.385	23.498	2	75	.000	.385
	Wilks' Lambda	.615	23.498	2	75	.000	.385
	Hotelling's Trace	.672	23.498	2	75	.000	.385
	Roy's Largest Root	.672	23.498	2	75	.000	.385
Locus of Control Pre-Test	Pillai's Trace	.003	.121	2	75	.886	.003
	Wilks' Lambda	.997	.121	2	75	.886	.003
	Hotelling's Trace	.003	.121	2	75	.886	.003

	Roy's Largest Root	.003	.121	2	75	.886	.003
	Pillai's Trace	.825	177.32	2	75	.000	.825
	Wilks' Lambada	.175	177.32	2	75	.000	.825
Life Skills Training	Hotelling's Trace	4.728	177.32	2	75	.000	.825
	Roy's Largest Root	4.728	177.32	2	75	.000	.825

The validity of the statistical model was determined using Box's M test. Given that the estimated p-value is less than the significance α level of .05, the assumption of equality of covariance between the groups' matrix is rejected. However, considering the equal sample size of the two groups, the probability of violation from the F statistical model in multivariate tests has been low (Table2).

Table 2
Box's M Test

P-Value	F	Box's M
.000	6.660	20.550

The First Hypothesis

Gaining life skills affects the mental health of deaf students. The mean scores of mental health for 40 students in the control group in the first phase (pre-test) and the second phase (post-test) were 41.42; and 47.28 respectively. Moreover, for 40 students in the experimental group, the mean score of mental health before giving the treatment (pre-test phase) was 47.87;

and it was 20.17 after giving the treatment (post-test phase) (Table 3).

Table 3
Descriptive Statistics of Pre-Test and Post-Test of the Students' Mental Health in the Control Group and the Experimental Group

Group	Pre-Test		Post-Test	
	Mean	Std. Deviation	Mean	Std. Deviation
Control	41.42	11.87	47.28	10.76
Experimental	47.87	14.00	20.17	5.39

In the covariance analysis Table (Table 4), since the estimated p-value (.000) was less than the significance α level of .05 ($\alpha = .05$), H_0 was rejected at this level and H_1 was accepted. That is, the mean score of mental health in the experimental group was significantly less than that of the control group. Accordingly, life skills training had a significant effect (82.7%) on increasing the mental health of the students.

Table 4
The Covariance Analysis of Life Skills Training on the Mental Health of the Students

Source	Sum of Squares	Df	Mean of S.S.	F	P-Value	Eta. Squared	Observed Power
Pre-test	2172.93	1	2172.93	48.14	.000	.285	1.000
Experimental Group	16631.07	1	16631.07	368.47	.000	.827	1.000
Error	3475.43	77	45.14	-	-	-	-
Total	20349.60	79	-	-	-	-	-

The validity of the statistical model was checked by Kolmogorov-Smirnov test (Table 5).

Table 5
Kolmogorov–Smirnov Test to Check the Validity of the Statistical Model for the Effect of Life Skills Training on the Mental Health of Deaf Students

Kolmogorov–Smirnov Test		Leven Test	
P-Value	Z	P-Value	F
.375	.913	.075	3.258

The Second Hypothesis

Gaining life skills affects the anxiety levels of deaf students. The mean scores of anxiety for the 40 students in the control group were 8.59 and 11.65 in the first phase (pre-test) and the second phase (post-test) respectively. The mean score of anxiety for 40 students in the experimental group, before and after the training was 10.52 and 3.3, respectively (Table 6).

Table 6
Descriptive Statistics of Pre-Test and Post-Test of the Anxiety in the Control and Experimental Groups

Group	Pre-Test		Post-Test	
	Mean	Std. Deviation	Mean	Std. Deviation
Control	8.59	3.79	10.52	3.46
Experimental	11.65	4.44	3.33	2.12

In the covariance analysis table, as the estimated p-value (.000) was less than the significance α level of .05 ($\alpha = .05$), H_0 was rejected at this level and it was concluded that life skills training had a significant effect on reducing the anxiety of the

deaf students. So, considering the Eta squared, the effect of life skills training on reducing anxiety was 75.1% (Table 7).

Table 7
The Covariance Analysis for the Effect of Life Skills Training on the Anxiety of the Students

Source	Sum of Squares	Df	Mean of S.S.	F	P-Value	Eta. Squared	Observed Power
Pre-Test	227.72	1	227.72	42.21	.000	.254	1.000
Experimental Group	1252.98	1	1252.98	232.23	.000	.751	1.000
Error	415.45	77	5.40	-	-	-	-
Total	1676.38	79	-	-	-	-	-

Table 8
Kolmogorov–Smirnov and Leven’s Test to Check the Validity of the Statistical Model on the Effect of Life Skills Training on the Anxiety of the Deaf Students

Kolmogorov–Smirnov test		Leven test	
P-Value	Z	P-Value	F
.733	.687	.351	.859

The Third Hypothesis

Gaining life skills affects the depression of deaf students.

The mean score of depression in the first phase (pre-test) was 7.24 for the 40 students in the control group, and it was 8.90 in the second phase (post-test). For the 40 students in the experimental group, the mean scores of depression were 9.05 and 1.50 before and after training respectively (Table 9).

Table 9
The Descriptive Statistics of Pre-Test and Post-Test of Depression in the Control and Experimental Groups

Group	Pre-test		Post-test	
	Mean	Std. Deviation	Mean	Std. Deviation
Control	7.24	4.92	9.05	4.59
Experimental	8.90	4.45	1.50	1.83

In the covariance analysis (Table 10), as the estimated p-value (.000) was less than the significance α level of .05 ($\alpha = .05$), H_0 was rejected at this level and it was concluded that life skills training had a significant effect on reducing depression in deaf students. Hence, considering the Eta squared estimates, the effect of life skills training on reducing depression was 66.9% (Table 10).

Table 10**The Covariance Analysis of the Effect of Life Skills Training on Depression in the Students**

Source	Sum of Squares	Df	Mean of SS	F	P-Value	Eta. Squared	Observed Power
Pre-Test	302.16	1	302.16	35.73	.000	.217	1.000
Experimental Group	1318.95	1	1318.95	155.95	.000	.669	1.000
Error	651.25	77	8.46	-	-	-	
Total	2094.72	79	-				

Table 11**Kolmogorov–Smirnov and Leven’s Test to Check the Validity of the Statistical Model on the Effect of Life Skills Training on Depression of the Deaf Students**

Kolmogorov–Smirnov Test		Leven Test	
P-Value	Z	P-Value	F
.505	.824	.084	3.068

The Fourth Hypothesis

Gaining life skills affects the somatic syndrome of deaf students. The mean score of the somatic syndrome for the 40 students in the control group in the first phase (pre-test) and second phase (post-test), were 10.78 and 12.04 respectively. For the 40 students of the experimental group, the mean score of the somatic syndrome before and after the training was 11.49 and 3.68, respectively (Table 12).

Table 12

The Descriptive Statistics of Pre-Test and Post-Test Scores of the Somatic Syndrome in the Control and Experimental Groups

Group	Pre-Test		Post-Test	
	Mean	Std. Deviation	Mean	Std. Deviation
Control	10.78	4.49	11.49	3.92
Experimental	12.04	4.83	3.68	1.87

In the covariance analysis table, as the estimated p-value (.000) was less than the significance α level of .05 ($\alpha = .05$), H_0 was rejected and as a result, life skills training significantly reduced the somatic syndrome of the students. So, considering the Eta squared quotient, the effect of life skills training on reducing the somatic syndrome was 79% (Table13).

Table 13

The Covariance Analysis of the Effect of Life Skills Training on the Somatic Syndrome in the Students

Source	Sum of Squares	D f	Mean of S.S.	F	P-Value	Eta. Squared	Observed Power
Pre-test	367.74	1	367.74	76.78	.000	.499	1.000
Experimental Group	1386.78	1	1386.78	289.53	.000	.790	1.000
Error	368.81	77	4.79	-	-	-	-
Total	1958.56	79	-	-	-	-	-

Table 14

Kolmogorov–Smirnov and Leven’s Test to Check the Validity of the Statistical Model on the Effect of Life Skills Training on Somatic Syndrome of the Deaf Students

Kolmogorov–Smirnov Test		Leven Test	
P-Value	Z	P-Value	F
.766	.667	.132	2.308

The Fifth Hypothesis

Gaining life skills affects the social behavior disorder of deaf students.

For the 40 students in the control group, the mean scores for social behavior disorder in the first phase (pre-test) and the second phase (post-test) were 14.58 and 15.33 respectively. The mean scores of the social behavior disorder for the 40 students of the experimental group were 16.26 and 11.65 in the pre-test and post-test phases, respectively (Table15).

Table 15

The Descriptive Statistics of the Pre-Test and Post-Test Score of the Social Behavior Disorders in the Control and Experimental Groups

Group	Pre-test		Post-Test	
	Mean	Std. Deviation	Mean	Std. Deviation
Control	14.58	2.57	16.26	1.78
Experimental	15.33	2.67	11.65	2.06

In the covariance analysis table, as the estimated p-value (.000) was less than the significance α level of .05 ($\alpha = .05$), H_0 was rejected, and accordingly, life skills training had a significant effect on reducing the social behavior disorders of the students. Considering the Eta squared estimates, this effect was 65.2% (Table 16).

Table 16

The Covariance Analysis of the Effect of Life Skills Training on the Social Behavior Disorders of the Students

Source	Sum of Squares	df	Mean of S.S.	F	P-Value	Eta. Squared	Observed Power
Pre-Test	50.11	1	50.11	16.13	.000	.173	.978
Experimental Group	448.96	1	448.96	144.55	.000	.252	1.000
Error	239.15	77	3.11	-	-	-	-
Total	714.76	79	-	-	-	-	-

Table 17

Kolmogorov–Smirnov and Leven’s Test to Check the Validity of the Statistical Model on the Effect of Life Skills Training on Social Behavior Disorders of Students

Kolmogorov–Smirnov Test		Leven Test	
P-Value	Z	P-Value	F
.911	.561	.892	.018

The Sixth Hypothesis

Gaining life skills affects the locus of control of deaf students.

For the 40 students in the control group, the mean scores of the locus of control source in the first phase (pre-test) and in the second phase (post-test) were 77.13 and 81.25 respectively. Likewise, in 40 students of the experimental group, the mean score of the locus of control source was 71.98 and 81.04 in the pre-test and post-test phases, respectively (Table18).

Table 18

The Descriptive Statistics of the Locus of Control Pre-Test and Post-Test Scores in the Control and Experimental Groups

Group	Pre-Test		Post-Test	
	Mean	Std. Deviation	Mean	Std. Deviation
Locus of Control	77.13	13.67	81.25	5.29
Experimental	71.98	14.27	81.04	4.10

The Seventh Hypothesis

Gaining life skills augments the internal locus of control of deaf students.

In the covariance analysis (Table 19), the estimated p-value (.871) was not less than the significance α level of .05 ($\alpha = .05$); therefore, in this level, H_0 was not rejected. Thus, there is no significant linear relationship between the pre-test and post-test scores of the locus of control. Accordingly, life skills training did not significantly deepen the internal locus of control of the deaf students. So, based on Eta squared quotient, this effect was just .03% (Table19).

Table 19
The Covariance Analysis of the Effect of Life Skills Training on the Locus of Control Source of the Students

Source	Sum of Squares	Df	Mean of S.S.	F	P-Value	Eta. Squared	Observed Power
Pre-Test	.559	1	.559	.025	.876	.0003	.053
Experimental Group	.601	1	.601	.027	.871	.0003	.053
Error	1745.42	77	22.668	-	-	-	-
Total	1746.84	79	-	-	-	-	-

Table 20
Kolmogorov–Smirnov and Leven’s Test to Check the Validity of the Statistical Model on the Effect of Life Skills Training on the Locus of Control Source of the Deaf Students

Kolmogorov–Smirnov test		Leven Test	
P-Value	Z	P-Value	F
.835	.621	.364	.834

Discussion

As the results indicated, life skills training had a significant effect on the deaf students' mental health and the degree of this effect was 82.7 percent. Results of the general health questionnaires indicated that life skills training also had significant effects on relieving the deaf students' anxiety by 75.1%, decreasing their depression by 66.9%, reducing their somatic syndromes by 79%, and reducing social behavior disorders by 65.2%. As Taromian (1999) suggests, these effects can be attributed to the improved sense of self-efficacy, developing appropriate behavior, usefulness, and overcoming problems among deaf students. Clearly, the increase in these capabilities leads to a decrease in the negative psychological effects of the hearing impaired which are more severe compared to other kinds of impairments such as visual impairment (Saadipour, 1999). This is in agreement with Seif Naraghy (2004) who considers both mental health and gaining social skills for these students.

As the results indicated, life skills training did not have a significant effect on the deaf students' locus of control. However, since a positive and direct relationship between mental health and locus of control has been reported in the research literature (Mir Hashemian, 1998), life skills training was expected to influence the students' internal locus of control. However, while it didn't do so, the cause might be due to limitations of working with the group of children who are mentioned in the subsequent section.

Limitations

1-Due to limited knowledge of the deaf, the test administration and the training involved time-consuming and difficult processes.

2- As there had not been any specific scientific source for training the deaf in life skills, the author, under the supervision of experts of the field and also while considering sources available for non –deaf students, compiled training materials special to the deaf.

3- To meet the standards, 10 students were assigned to each class, there which caused the data collection process to take a long time.

4- One of the basic limitations in the present study was related to ambiguity in the items of the locus of control test. Most test takers asked about the meaning of the sentences and some test takers answered the questions without understanding the meanings. This has probably influenced the results of the study.

5- As the subject of this study was new to the deaf, it was very hard to find relevant research in the literature.

Suggestions

1- Due to the broad investigations in the present study, it is suggested to have skilled experts perform training programs in schools special to the deaf or other groups with disabilities.

2- There should be a relationship between the oral training courses and real life situations.

3- There should be relevant training courses to improve the knowledge and skills of the teachers.

4- As there have not yet been such studies conducted among the deaf and hard of hearing, in order to obtain more

generalizable results, the present study should be replicated in other related fields.

5- Further research is needed to investigate the importance of each of the life skill components with respect to the special needs and the special culture of the deaf.

6- Further research should also investigate the effect of life skills training on other behavioral variables such as violence, remonstrance, crime, behavioral disorder and educational performance.

7-Since there is little research based information available in this area, conducting more studies is strongly recommended to shed more light on the issue.

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Received: 18/ 5/ 2014
Revised : 19/ 11/ 2015
Accepted: 22/ 11/ 2015