Feeling of Loneliness in Deaf Adolescents: the Effect of An Online Life Skills Program

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Abstract

The aim of the current study was to investigate the effect of life skills training on the reduction of feeling of loneliness among deaf and hard of hearing adolescents.This study had a pretest-posttest with control and experimental group design using convenience sampling. The Feelings of Loneliness Questionnaire developed by Dehshiri (1387) was filled in by 275 individuals who were joined in a special social network for the deaf. The age rang of the sample group was from 17 to 37. Thirty of them who had the lowest scores in feelings of loneliness were randomly assigned to two fifteen-person groups. The experimental group received online life skills-based education, while the control group received no intervention. The training was performed in ten 120- minutes sessions. The data were analyzed by ANCOVA and repeated measures test. The results indicated that the online life skills-based training program reduced feelings of loneliness caused by a lack of interaction with friends and family in deaf adolescents. According to

the results of this study life skills are so important for deaf adolescents and paying attention to these skills is a social necessity through which the mental health of individuals with hearing impairment and deafness can be improved. In addition, regarding the effectiveness of online life skills-based education and considering the inaccessibility of conventional consultation for all of individuals with hearing impairment and deafness, online counseling and also online social, cognitive, and consultative rehabilitation can be used and is recommended in other domains.

Keywords: deafness; hearing impairment; online education; life skills; feelings of loneliness

Introduction

Hearing is one of the most important senses in human which affects all our lifespan . This sense, along with language, plays a significant role in establishing communication with others. The prevalence of hearing impairment in children is more than 1.7% while up to 7% of adults suffer from it (including 183 million men and 145 million women) (World Health Organization, 2017). Deafness can influence physical and mental health and social well-being of adolescents and might result in low self-esteem, irritability, isolation, disappointment, depression and anxiety and emotional and social problems (Kral & O'Donoghue, 2010; Kushalnagar et al., 2007).

Researchers identified a direct relationship between the severity of deafness and psychological distress; although some levels of distress is part of everyday life, but increase in the level of distress along with symptoms such as anxiety and restlessness, irritability, tantrum/ impulsivity, stress, decreased concentration and sleeplessness may make a person relinquish and ignore his major social roles, especially job-related ones; therefore, deafness has a greater influence on adolescents both psychologically and physically (Nachtegaal et al., 2009; Saha, Sharma, & Srivastava, 2017).

Reduced participation of deaf and hearing impaired individuals in social life leads to a reduction in social adjustment and quality of life (Mc Gaha & ferrin, 2001). Hearing loss can cause secondary problems such as perception and communication problems, emotional and affective problems, social problems, academic problems, etc., furthermore, depending on the extent of hearing impairment, the child's age at the onset of deafness and his mental and intellectual capabilities, the extent of problems may vary (Pettala & Rajaguru, 2016; Marschark & Hauser, 2008; Elhageen, 2004).

According to research findings, deaf individuals experience loneliness more than others, however, in the late adolescence and early youth, the risk factor of experiencing loneliness increases and their social connections become more obscure (Deniz, Hamarta, Ari, 2005; Ang, Mansor, 2012; Stinson, & Whitmore, 2000). In fact, the

disruption of proper communication with peers and others leads to a deficit in social and communication skills, and failure to learn life and social skills. As a consequence, low self-confidence, fear of rejection, feeling of humiliation, inability in developing friendships and low self- esteem might occur (Deniz, Hamarta, Ari, 2005; Ang, Mansor, 2012; Razny, 2011).

Moreover, according to the findings of the present study, deaf and hearing impaired individuals, on the one hand, have often not been fully considered by psychologists and very few interventions have been developed for this group. On the other hand, communication problems are prevalent among deaf and hearing impaired individuals, which further leads to the feeling of loneliness, low self-esteem, fewer acceptance of deafness/hearing impairment, and the abandonment of interests and activities, which also affects their psychological well-being (Fellinger, Holzinger & Pollard, 2012).

Unicef (2007) defines life skills as a large group of psychological, social and interpersonal skills that help individuals in personal decision making, effective communications, the evolution of role modeling and self-management skills, all of which might help leading them to a healthy living.

Therefore, deaf individuals need special training to get adequately prepared for social life. They should find a way to communicate with their peers and join the community. Cyberspace provides an opportunity for hearing impaired individuals to compensate for this feeling of loneliness and lack of face to face communication with others. In other words, the use of cyberspace should be promoted since it might provide the deaf individuals with various communication motivators (Ghiamatyoon, Nesayan & Movallali, 2016; Yoon, 2011). Though lots of studies have so far been conducted on the use of cyberspace and the internet by adolescents and youth, most of which have pointed to the negative effects of the use of cyberspace on mental health (Morahan-Martin & Schumacher, 2003; Oguz & Cakir, 2014), research on online training and the use of this public space in learning life skills and how to improve mental health is still scanty. Also little attention has been paid to the deaf youth concerns, factors and type of services which affect mental health of this group of youth (Blom, Marschark, Vervloed, & Knoors, 2014; Kožuha, Hintermair, Hauptmana, & Debevca, 2015; Maiorana-Basas & Pagliaro, 2014; Kožuh, Hintermair, & Debevc, 2014).

Consequently, considering the disabling nature of hearing impairment and low levels of mental health indicators in this group, who suffer from a hidden disability, and the dearth of studies about the loneliness feeling in these individuals, more research on this issue seems imperative. Also, due to the positive characteristics of virtual training and counseling, considering time and cost effectiveness and more self-expression on the side of the users, different individuals from various locations will be able to participate in training interventions (Gatti, Brivio, & Calciano, 2016). Through conducting this and similar studies, utilizing online life skills training

programs, we hope to reduce the loneliness feeling of hearing impaired individuals and improve their mental health. The findings of these studies might be applicable in psychology and counseling clinics to prevent depression and isolation, and enhance self-esteem and identity styles, and even academic achievement of these individuals.

Moreover, considering the important studies carried out on loneliness feeling, many of which pointed to the effectiveness of training on a variety of life skills in the general population and, in some cases, among individuals with special physical-needs and the blind, the main question raised for the present study is whether online training program of life skills affects the loneliness feeling of deaf and hearing impaired individuals.

Method

The basis of this research was randomized experimental with pre-test, post-test and follow-up with control group, wherein the participants were randomly assigned into two groups. The statistical population of this study included all deaf, hearing-impaired, and cochlear implant youth between 17 and 37 years old throughout Iran. They were members of Faranak Clinic and were members of a Telegram channel named "capable deaf youth" in 2016-2017.

The participants were selected through convenience sampling. The sample of this study included 270 individuals. After administering loneliness questionnaire, 30 of them were randomly assigned into two groups of online life skills training (15 individuals) and the control group who did not receive any intervention (15 individuals). In other words, the questionnaire was distributed among all 270 individuals and among them, those who scored below the mean and met the inclusion criteria were included in the study. The inclusion criteria were hearing deficit (hearing loss, hearing impairment, cochlear implantation, according to their self-report), the absence of psychiatric illnesses that interfere with the course (according to their self-report), the absence of psychiatric and physical problems (according to their self-report), being in the age range of 17-37, having a minimum degree of education, agreement to participate in research and signing the written consent form. It is worth mentioning that the exclusion criteria were having a disorder or meeting the complete criteria for personality disorder in the second axis, disagreement with participating at any time in research, the inability or willingness to do assignments, the absence of more than two sessions in the three-step assessment process.

Instruments

To collect the data, the loneliness feeling questionnaire developed by Deshiri et al. (2006) was administered. The questionnaire included items on the rate and mode of communication and social interactions of the individual with parents, family members, friends as well as the emotional characteristics of these relationships. The items had a five-point Likert scale ranging. Participants rate each item as either O ("I often feel this way") ,S ("I sometimes feel this way'), R("I rarely feel this way").

The participants were asked to judge the extent to which each item is true about their feelings, behaviors and attitudes in this five-point Likert scale. The scales were scored from 0 to 4 and some items were reversely scored. The Cronbach's alpha coefficient for the whole scale was 0.91, for the loneliness due to communication with the family subscale, 0.89, for the loneliness due to the relationship with friends subscale, 0.88 and for the emotional signs of loneliness subscale, 0.79. Cronbach's alpha coefficient of the questionnaire was 0.85 in the present study.

Procedure

In order to create and increase trust in deaf and hearing impaired individuals (to be unbiased against hearing individuals), researchers worked as the counselors and psychologist in the "capable deaf and hearing impaired youth" group at the outset of the study. At first, the members of the group showed fierce resistance and bias towards the hearing counselors. At the initial session, we attempted to talk about the issues pertain to deaf and hearing impaired individuals, but the more we proceeded, the more resistance they showed. Therefore, it was decided to discuss the topics of interest to members. At the beginning of each session, members were inquired about their favorite topics. Gradually, over the course of a few months, the members' resistance was reduced and they talked more frankly with counselors about their own problems. During these sessions, the inevitability of learning life skills was discussed and after several months, deaf youth were informed about the research and provided with the informed consent forms and if the consent form was signed, they would be included in the assessment and training process, as the research participants. Once receiving the written consent and following the selection of the participants based on the inclusion and exclusion criteria, the participants were assessed by the research instrument. Then, they were randomly assigned into two groups, one group received online life skills training, and the other group did not receive any intervention. All questions in the research instrument were explained to the participants in plain, tangible and objective language, along with different examples.

The experimental group received online life skills training for 10 sessions of 120 minutes, two sessions a week, while the control group did not receive any psychotherapeutic intervention or any other training.

In order for the participants to better understand words, sentences, topics and situations, researchers used objective examples, films, pictures, paintings, animations, etc., and at the end of each session, the participants were given three assignments that were discussed jointly at the beginning of the next session. Furthermore, along with the beginning of life skills training sessions, a group of hearing, deaf, cochlear implant and hearing impaired individuals was created to help the participants understand the meaning of words and sentences and learn sentence construction. In fact, the aim was to allow members who do not participate in the group, due to poor sentences or lack of understanding of the meaning of words or

phrases, to participate in the discussions, following the correction of their grammatical, word meaning and sentence mistakes.

In order to measure the effectiveness of treatment, before and after the online life skills training course, both pretest and post-test were administered to both groups. After three months, the participants were followed up.

After completing the follow-up questionnaire, the control and experimental groups were merged and a new life skills' training course for deaf and hearing impaired youth commenced.

To implement ethical interventions, the ethical codes proposed by the American Psychological Association (2003) and the Psychology and Counselling Association of the Islamic Republic of Iran (2006) were considered.

The general introduction of the program and the summary of the sessions, by the structure of the sessions, is as follow**s:** Table 1. Summary of the sessions' content

No	Session content
First	Introduction and building rapport, introducing members and goals, introducing the training program, the significance of life skills training and its impact on individual and social life**.**
Second	An overview of the content of the previous session, self-awareness skills' training, discussing the characteristic of self- aware individuals, benefits of self-awareness, awareness of positive aspects of self, increasing self-confidence, assertiveness training, summary discussion, feedback, homework assignment.
Third	An overview of the content of the previous session, assessing homework, understanding the most important values from the individual's point of view, empathy skills' training, familiarizing the individual with empathy concepts, empathy effects on personal and social relationships and on personal and social contributions, empathy barriers, the main methods of empathy, summary of the session, homework assignment.
fourth	An overview of the content of the previous session, assessing homework, interpersonal skills' training, identifying effective factors and communication components, training communication skills, establishing an appropriate communication, active listening skills, summary of the session, homework assignment.
Fifth	An overview of the content of the previous session and continuing the training of the effective communication skills and effective interpersonal skills, homework assignment, elements of friendly relationships, concepts and interpersonal relationships, trust, empathy and acceptance, my message and your message, conflict resolution styles.
Sixth	An overview of the content of the previous session, assessing homework, conflict resolution styles, training the technique of courageous behavior, summary of the session, homework assignment.

Seventh	An overview of the content of the previous session, assessing homework, training the technique of courageous behavior, the significance of courageous behavior, healthy and unhealthy communication styles, ability to say no summary of the session, homework assignment.
Eighth	An overview of the content of the previous session, assessing homework, critical thinking skills training, processes and stages of critical thinking, active and creative thinking, summary of the session, homework assignment.
Ninth	An overview of the content of the previous session, assessing homework, awareness of anger and violence, training anger management skills, identifying appropriate anger reactions, summary of the session, providing feedback, homework assignment.
Tenth	An overview of the content of the previous session, assessing homework, negative mood coping training, training on changing automatic negative thoughts, group activity and doing assignments, appreciating the participants, summing up and closing session.

Data analysis

To analyze the data of this study, descriptive statistics of central tendency (frequency, mean and standard deviation) and   inferential statistics (variance analysis and covariance (ANCOVA) are used. Descriptive statistics of the variables of the   study are presented in the following table.

Table 2: Mean and standard deviations of research variables by experimental and control group

Variable	Group	Mean			SD		
		Pre-test	Post-test	Follow-up	Pre-test	Post-test	Follow-up
Feeling lonely	Experimental	107.53	61.78	63.13	18.27	21.10	21.94
	Control	90.07	94.07	93.87	21.73	27.47	26.88
Feeling lonely (Friends)	Experimental	33.8	17	18.4	8.60	8.31	8.02
	Control	30.13	31	30.6	8.68	9.44	9.57
Feeling lonely (Family)	Experimental	48.07	31.67	32.73	10.18	13.38	13.30
	Control	36.73	38.13	39.2	12.13	18.70	16.53
Emotional signs	Experimental	25.61	13.20	14.33	7.69	8.22	8.22
	Control	23.2	24.93	23.6	7.98	8.93	8.10

In Table 2, mean and standard deviation of each of the four research variables were reported in the pretest, post-test, and   follow-up. As shown in the table, there is no significant difference in pre-test, post-test and follow-up scores of the control group, however, in the experimental group, post-test and follow-up scores differ significantly from the pre-test scores.

The main hypothesis: Online life skills' training program reduces feelings of loneliness in deaf and hearing impaired youth**.**

Table 3: Results of covariance analysis test for experimental and control groups

Indicator change sources	Sum of squares	df	Mean Squares	F	Effect size	p
Pre-test	1015.8	1	1015.8	1.74	.06	.2
Post-test differences of the two groups	8741.08	1	8741.08	14.95	.356	.001
Error	1578.87	27	584.62			
Total	24576.97					

Table 3 presents the results of the covariance analysis test to examine the difference between the two experimental and control groups, by eliminating the pre-test factor. According to the second row of the table and by controlling the pre-test effect, a significant difference is observed between the two experimental and control groups in the post-test (Sig <.05, F = 14.95). Therefore, the difference in the post-test scores of the experimental and control groups is statistically significant (p<.05).

Table 4: Analysis of variance results of repeated measures for post-test and follow-up

Indicator change sources	Sum of squares	df	Mean Squares	F	p
Time	4.27	1	4.27	3.11	.088
Error	39.73	29	1.37		

The results of repeated measures analysis of variance obtained from the comparison of post-test scores with follow-up scores are presented in Table 4. The results indicate no significant difference between post-test and follow-up of loneliness variable (p <.05 and F = 3.11); Therefore, it can be concluded that changes made in the individuals were stable.

Discussion

The aim of the present study was to investigate the effectiveness of the online life skills' training program on the loneliness feeling of deaf and hearing impaired youth. Although similar studies was not found, the results of this study are consistent with studies that reported the positive effect of training life skills. It is worth mentioning that the findings of the present study are in line with the findings of Trogit and Rife (2004). They indicated that hearing-impaired individuals, like other groups with specific needs, possess a low level of basic social skills and, as a result, they gradually lose their sense of value and thus they avoid encountering others and narrow the scope of their social interactions. According to the abovementioned points, the need to train individuals with hearing impairment for interpersonal skills is highly felt. Moreover, Huurre and Aro (2000) indicated that hearing impaired youth, especially

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those who were deaf, had more problems in their personal relationships and social interactions with friends than the healthy group; therefore, many studies have focused on training life and social skills through various activities and reported the effectiveness of such training programs. Among these studies, the findings of the following ones are consistent with the findings of the present study (Kef, 1997; Mc Gaha & ferrin, 2001; Erozkan, 2009; Bharath & Kishore-Kumar, 2010; Wittenberg & Reis, 1986; Heinrich & Gullone, 2006; Christians & Ankrom, 1988; Asher & Paquette, 2003; Hermann, 2005; Mahvash-Vernosfaderani & Movallali, 2013; Mahvash-Vernosfaderani, 2014; Mahvash-Vernosfaderani, Adibsereshki, & Movallali, 2012; Pettala & Rajaguru, 2016).

In explaining these findings, it can be stated that the main characteristic of individuals with hearing impairment is a deficit in learning and applying life skills. Deaf individuals, due to communication problems, might not be able to fully develop a strong social network outside their family. The extension of the concept of self (the feeling of self) is extremely complex and complicated for the deaf individuals (Hintermair, 2008; Polat, 2003; Cates, 1991). In other words, they do not acquire the skills of life implicitly or they fail to apply the skills they have already learned. Considering the point that life skills' training is of crucial importance for deaf adolescents and directly affects the development of their life skills and psychological health (Pettala & Rajaguru, 2016), attempt was made, in the present study, to train skills that increase confidence, and to improve empathy skills, establish effective relationships, cope with stress, manage emotions, solve problems, etc. each of which improves the level of social and individual life in some way or another and, in particular, training reduces the loneliness feeling caused by lack of contact with friends. Moreover, group training, by its very nature, significantly increases the compatibility of this group, since gathering in a group of people with similar problems is effective in reducing mental pressure, negative mood, feeling lonely and consequently increases the acceptance of reality and coping with it.

Throughout the present study, skills such as self-awareness and change in autonomous negative thinking were taught to the participants. Individuals were guided towards self-awareness, awareness of positive qualities, increased confidence and self-expression, as they performed various assignments. The guided assignments, were presented from easy to difficult so that the individual obtain higher self-confidence besides self-esteem. The participants learned how to behave courageously, and used the healthy relationship guidelines in developing their relationships and managed to establish closer relationships with their family through controlling their anger and negative thoughts. Furthermore, group participation made everyone aware of the experiences and understandings of other members regarding the discussions and the situations and thus, they could obtain a wider and more comprehensive view of events and happenings without early judgment.

Training the life skills can be a source of change, including change in attitudes and beliefs, and this, in turn, enhances the   recognition, adaptation and improvement of social relationships and individual health. Training enables people, including the deaf and the hearing impaired, to learn more about themselves, recognize their strengths and weaknesses, develop   some degrees of self-awareness, and overcome their weaknesses and add to their strengths and adopt brighter and wider viewpoints. As a result, a person might readily accept the facts, agree more consistently with them without an immature judgment and this might, in turn enhance his/her adjustment and reduce his/her psychological pressure. Consequently,   he/she might have more effective and lasting communication, and thus his/her sense of loneliness reduces as well.

During the training sessions, the members of the experimental group, being in a group context, could express their emotions, and exchange their experiences. Furthermore, they understood that they are not the only ones who experience   these feelings, thus, they expressed their thoughts and feelings more easily and freely. Subsequently, they became more aware of their own thoughts and feelings. In addition, skills' training exerts an undeniable influence on coping with negative mood, changing and controlling automatic negative thoughts, emotional management skills and critical thinking. It further   improves the control of emotions, feelings and unrealistic expectations. Though the findings of different studies highlight   that loneliness is a distressing experience, the cognitive element has also been emphasized. Life skills training, in the   present study, made individuals take a more critical and insightful look at their issues, events and expectations, and to gain   more adequate and accurate understanding of themselves and others. In this regard, recognizing the abilities, the requisite   social skills, effective relationships and increasing self-esteem plays a crucial role in the reduction of loneliness emotional symptoms.

Conclusion

Based on the results of this research, it can be maintained that life skills training is essential for all people, especially deaf   and hearing impaired ones. To further justify the need for a life-skills training program aim at reducing loneliness feeling of   deaf and hearing impaired youth, it can be stated that training skills such as proper communication techniques, effective   interpersonal skills, self-awareness and empathy, coping with negative mood, emotional management and problem-solving allow an individual to develop the ability to act in accordance with his/her own criteria and achieve the desired outcomes in   a certain situation. In addition, training can enhance individual's knowledge, strengthen his/her positive beliefs and prevent isolation and withdrawal. All the aforementioned points prevent the occurrence of disruptive individual, psychosocial, and   social factors or largely decrease them. It seems that most of the psychological and social disturbances result from the inability to act in line with their own criteria, and as a consequence, the individuals fail to

achieve expected outcomes; they might lack sufficient knowledge and have mistaken beliefs about themselves and the world around them.

Similar to other studies, this study also has certain limitations. First, the report of psychiatric illnesses has been based on individuals' self-reports. Second, the participants had a limited ability to identify examples and illustrations which aimed at objectifying training in the experimental group. Third, analyzing and comprehension ability of the participants was low, particularly in abstract concepts and concepts that required judgment and the final limitation was the difficulty researchers had in explaining the meaning of questionnaire items through chatting and illustrating images.

It is suggested that the durability of the effectiveness of the training program be examined in the course of one-year, two- year and five-year follow-up periods. Word meaning and sentence construction could be included in future training courses. Furthermore, due to the limited sample size (deaf and hearing impaired youth) of the present study, it is recommended to conduct more studies to find stronger supports for the effects of life skills training approach on loneliness feeling and its therapeutic effects on other variables and psychiatric disorders. Moreover, the effects of this training program can be compared with other therapeutic approaches.

Acknowledgments

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