

The effect of coping cat program (CCP) on the loneliness of 8-12 years old children in a primary school of Aliabad Katoul in 2019

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ABSTRACT

Introduction: Human is a social being who needs to have a relationship with other human beings. Lack of appropriate and satisfying social relationships or the sense of loneliness has devastating effects on health and quality of life. Therefore, the aim of this study was to investigate the effect of coping cat program on the loneliness of 8-12 years old children.

Method: This classic experimental study was conducted on 60 primary school children in Aliabad Katoul (Golestan province) in 2019. Sampling was done by convenience method and the samples were randomly divided into two intervention and control groups. The intervention group received the coping cat program in 16 sessions. Data were collected by a demographic questionnaire and the Usher's loneliness scale and then were analyzed by SPSS software version 20 using independent t-test, paired t-test and covariance test.

Results: The mean score of loneliness before the intervention in the intervention and control groups was 66.66 ± 520.3 and 70 ± 9.82 , respectively. But after the intervention, the mean score of loneliness reduced to 62.03 ± 9.71 in the intervention group and 69.71 ± 12.23 in the control group, which showed a statistically significant difference ($P = 0.01$), so that 11% of post-test changes could be explained by independent variables and the intervention ($P = 0.008$, $\eta^2 = 0.11$).

Conclusion: Considering the effectiveness of coping cat program in reducing the students' loneliness, it is recommended to use this non-pharmacological but effective and attractive method to reduce the sense of loneliness and increase the quality of life and social skills of children.

Keywords: Coping cat program, Loneliness, Children

INTRODUCTION

Childhood is an integrated and distinct period of life, yet it is a period that lasts from birth to adolescence and is characterized by profound changes in education, health and interpersonal relationships (1). Elementary school is a good period to recognize the social and educational problems of children, and plays a vital role in children's imagination and adaptation. In this period, which is one of the most important stages of life, individual's personality is established and formed (2). Today, one of the social problems in different societies is behavioral and psychological disorders and ways to deal with them, so there is no doubt that the issue of mental health, and prevention and treatment of behavioral disorders is becoming ever more important (3). Nowadays, assessing the mental health of students is one of the important aspects of mental health promotion in societies. Therefore, organizing mental health services in schools is a fundamental strategy for promoting the mental health of students and ultimately, the society as a whole (4). Loneliness is a common experience in children and adolescents, but when it occurs frequently, it has devastating effects on their physical, mental and emotional health (5). Loneliness is an unpleasant condition that arises from the difference between the interpersonal relationships that people want and the relationships they have with

others in real life situations. This feeling is important because it is associated with emotional status, social poverty, behavior, and health of adults, adolescents, and children (6). This feeling of loneliness may reduce the self-esteem and increase stress, anxiety, high-risk behaviors such as running away from school, depression, shyness, the risk of suicide, smoking, and substance abuse in children and adolescents (7). According to previous studies, more than 10% of ten to six grade elementary school children feel lonely and socially dissatisfied, and their level of loneliness is related to the level of acceptance in their peer group (8). Therefore, lonely individuals have serious problems in learning social, communication and life skills due to impaired social relationships they have with people in the community and as a result, have low self-esteem, sense of rejection and inferiority, and inability to develop friendly and sincere relationships with others (9). However by using coping cat program, it is possible to increase people's self-awareness about their emotions and conflicts and prepare them to deal with their emotional and mental problems (10).

The cognitive-behavioral interventions can be used as a main approach for most psychological problems (11), and in this regard, coping cat program can be considered as one of the most useful programs that are based on cognitive-behavioral therapy (12).

In the coping cat program, children learn how to master their primary and secondary assessment processes, which are rooted in their misconceptions about their abilities and the high level of threatening situations they perceive. They do this by learning various psychological skills, modifying their coping plan, thinking about available solutions, cognitive reorganization, and avoiding wishful thinking and cognitive avoidances, and by modifying these self-narratives, they can coordinate their abilities with the nature of stressful situations and ultimately, help boost their self-confidence through confrontation rather than avoidance (13).

However, like many other treatment programs, there are some criticisms for the coping cat program (14). Kendall et al., state that coping cat program is very flexible, has been creatively designed for each client, and can be adapted to any culture (15). Due to the low awareness of therapists about CCP and since only few studies have been conducted on CCP and its effects in Iran, and also considering the negative effects of loneliness on children, the present study was conducted to investigate the effect of coping cat program (CCP) on the loneliness of 8-12 years old child studying at a primary school of Aliabad Kotoul.

Study method: This is a classic interventional study that was conducted on two groups of intervention and control. The statistical population in this study consisted of children studying at Asieh primary school of Aliabad Katoul in Golestan province in 2019. In this study, the sample size was determined to be 60 people (N=30 in each group) by G* POWER statistical software, considering the effect size of 0.78, confidence interval of 0.95, significance level of 0.05 and test power of 80%.

Inclusion criteria were; children aged 8-12 years and children whose parents provided a written consent for their participation in the study. Exclusion criteria included; children whose primary school had changed, children whose families did not allow them to participate in the study, children who did not wish to participate in the study, children who were absent from the teaching sessions and children whose parents had been divorced or had a single parent.

A total of 60 students studying at Asieh primary school were selected to take part in the study by convenience sampling method, and were randomly divided into the intervention and control groups.

The data collection tools included a demographic information form and the Usher et al.'s (1984) loneliness questionnaire. Demographic information included child's age, educational level, number of children and birth rank. The Usher's questionnaire has 24 items in a five-point Likert scale ranging from 1 (not true for me at all) to 5 (absolutely true). In this scale, to make the respondents express their true feelings about subjects and to avoid the directional responses, 8 questions have been considered as irrelevant questions that are related to the children's topics of interest, but they are not included in the calculation of overall score. In addition, a number of questions on this scale are scored in reverse. Items 2, 5, 7, 11, 13, 15, 19, 23 are considered as deviation items. The scores of irrelevant questions will be removed from the analysis and calculation of final scores. In addition, items 3, 6, 9, 12, 14, 17, 18, 20, 21, 24 are calculated in reverse

order. The score range in this scale is from 16 to 80, with a higher score indicating greater feelings of loneliness and social dissatisfaction. The reliability coefficient of this questionnaire has been reported at 0.91 by Spearman-Brown method and $r=0.91$ by Guttman halving method (16).

Demographic and loneliness questionnaires were completed by both intervention and control groups before the intervention. Prior to the start of intervention, a brief explanation was provided to samples in the intervention group and then, they received the training in 16 sessions (30 minutes long) for 4 consecutive weeks (4 sessions per week) according to the table (1). The trainings were carried out based on the selected source (17). Also, no action was taken for the control group during the study, but in order to comply with ethical issues, educational materials were provided to the samples in the control group after the study. At the end of the fourth week, the Usher's loneliness questionnaire was completed again by the intervention and control groups, and the results were compared with previous results (Diagram No. 1).

This study is part of an MSc thesis with the ethics code: 1398.037, IR.IAU.CHALUS.REC, approved by the Islamic Azad University, Chalous Branch.

For sampling, after explaining the purpose and method of study to the children and their parents, they were invited to participate in the study and if they agreed, a written and oral informed consent was obtained from them and their parents. The children were also reassured that their lack of participation in the study would not prevent them from receiving the usual services at the center. The samples were informed that if they do not want to continue participating in the study, they will have the right to leave the study without any problems. In addition, they were assured about the confidentiality of their information, and accuracy and scientific reliability of information and statistics obtained at the time of data collection and analysis. In order to observe ethical issues, the educational materials were also provided to the control group after the study. The data were analyzed by SPSS software version 20 using descriptive (frequency, percentage, mean and standard deviation) and analytical statistics (independent t-test, paired t-test and covariance).

The mean age of the samples in the intervention group was 10.61 years with a standard deviation of 1.37 and in the control group was 10.21 years with a standard deviation of 1.32. Independent t-test showed that, the mean age of the samples was the same in the two groups ($P = 0.26$). Also, the results showed that the two groups were homogenous in terms of variables such as education ($P = 0.13$), number of children ($P = 0.77$) and birth rank ($P = 0.87$), (Table 2).

The mean and standard deviation of pre and post-test scores of children's loneliness in the intervention and control groups is presented in Table 3. The score of children's loneliness before the intervention in the intervention group was 66.66 ± 5.52 and in the control group was 70 ± 9.82 . In this regard, independent t-test did not show a significant difference between the two groups ($P = 0.11$). The results also showed that, the effect of independent variable of the coping cat program on reducing the loneliness of children was statistically significant, so that the score of children's

loneliness after the intervention in the intervention group was 62.03 ± 9.71 and in the control group was 69.71 ± 12.23 . In this regard, the independent t-test showed a significant difference between the two groups ($P < 0.01$).

Table 1: Training sessions

Session	Educational sections	Educational topics
Session 1 30 min	Creating a relationship and shaping the direction of treatment	Get to know each other and explain the basics of treatment. Gather information about situations that cause the anxiety or sense of loneliness to the children and their reaction to the symptoms of anxiety and loneliness.
Session 2 30 min	Identify feelings of anxiety and loneliness	Examine the treatment goals. Help the child to identify different emotions and distinguish between feelings of anxiety / concern and loneliness, and other emotions.
Session 3 30 min	Identify physical responses to anxiety and loneliness	Review the distinction between anxiety / concern and loneliness, and other emotions.
Session 4 30 min	First meeting with parents	Encourage parents' involvement in the treatment program. Answer the parents' questions.
Session 5 30 min	Relaxation training	Identify physical symptoms that indicate stress, anxiety, and loneliness in the child.
Session 6 30 min	Identify anxiety-induced self-talking and learn to challenge thoughts	Describe how personal thoughts work, and confirm them in response to the anxiety and loneliness-creating situations. Review relaxation training.
Session 7 30 min	An overview of anxiety-induced self-talking, sense of loneliness, coping self-talking and problem-solving skills	Examine the concept of anxious self-taking and loneliness, and reinforce the shift from anxious self-taking and loneliness to coping self-talking.
Session 8 30 min	Self-assessment and self-reward training, and an overview of the skills learned	Introduce the concept of evaluation by performance and self-reward grading based on effort and performance. Review all of the previously taught skills by formulating a four-step FEAR plan for child to use when feeling anxious and lonely, and practicing it in stress-free situations. An overview of the skills learned.
Session 9 30 min	Second meeting with the parents	Encourage parents to participate in the treatment program on a continuous basis. Answer parents' questions and address their concerns.
Session 10 30 min	Exercise in situations where they have low anxiety and loneliness using being at risk homework	Practice the four-stage (FEAR) program in low stressful and lonely situations, in both imaginary and real situations.
Session 11 30 min	Exercise in situations where they have low anxiety and loneliness using homework	Exercise and use of coping skills to deal with anxiety and loneliness in situations that create a low level of anxiety and loneliness in the child.
Session 12 30 min	Exercise in situations where they have moderate anxiety and loneliness using homework	Practice anxiety and loneliness coping skills in imaginary and real situations that create a moderate level of anxiety and loneliness in the child.
Session 13 30 min	Exercise in situations where they have moderate anxiety and loneliness using homework	Practice anxiety and loneliness coping skills in imaginary and real situations that create a moderate level of anxiety and loneliness in the child.
Session 14 30 min	Exercise in situations where they have high anxiety and loneliness using homework	Practice anxiety and loneliness coping skills in imaginary and real situations that create a high level of anxiety and loneliness in the child.
Session 15 30 min	Exercise in situations where they have high anxiety and loneliness using homework	Practice anxiety and loneliness coping skills in imaginary and real situations that create a high level of anxiety and loneliness in the child.
Session 16 30 min	Exercise in situations where they have high anxiety and loneliness, make a video and end the treatment	Assign a final exercise task to apply the skills in the real situation that leads to a high level of anxiety and loneliness in the child. Make a video clip.

Table 2: Comparison of individual variables between the intervention and control groups at Asieh primary school of Aliabad Kotoul in Golestan province in 2019

		Intervention	Control	P-value
Education level	Third	7 (23%)	8 (27%)	P=0.13
	Fourth	5 (17%)	11 (37%)	
	Fifth	8 (27%)	6 (20%)	
	Sixth	10 (33%)	5 (17%)	
Number of children	Single child	6 (20%)	8 (26.66%)	P=0.77
	2-4 children	23 (76.66%)	21 (71%)	
	More than 4 children	1 (3.33%)	1 (3.33%)	
Birth rank	First	16 (54%)	13 (43%)	P=0.87
	Second	10 (34%)	14 (47%)	
	Third	2 (6%)	3 (10%)	
	Fourth	1 (3%)	0	
	Fifth	1 (3%)	0	
Child's age	Mean + SD	10.61 ± 1.37	10.21 ± 1.32	P=0.26

Table 3: The effect of coping cat program on the loneliness of children studying at Asieh primary school of Aliabad Kotoul in Golestan province in 2019

Time \ Group	Intervention	Control	P-value
Before intervention	66.66 ± 5.52	70 ± 9.82	P = 0.11
After intervention	62.03 ± 9.71	69.71 ± 12.23	P = 0.01
P-value	P = 0.03 Mean = 0.3	P = 0.92 Mean = 0.3	

Also, covariance test with the control of pre-test variable showed a significant difference in the scores of children's loneliness in the intervention group before and after the intervention, which by controlling the pre-test effect, 11% of the post-test changes could be explained by independent variables and the intervention (P = 0.008 and Eta = 0.11), (Table 4).

Table 4: The effect of coping cat training on the loneliness of children studying at Asieh primary school of Aliabad Kotoul in Golestan province in 2019

	Sum of roots	Degree of freedom	Mean of roots	F-value	Level of significance	Eta
Modified model	932.03	2	466.02	3.75	P0=0.02	0.11
Post-test separator	4248.16	1	4248.16	34.21	P<0.01	0.3
Group	931.42	1	931.42	7.5	P=0.008	0.11
Error	7074.9	57	124.1			
Sum	2683102	60				
Total	8006.93	59				

DISCUSSION

The findings of present study showed that in the pre-test stage, all participating children had high score of loneliness. However, after participating in the coping cat training program, the loneliness score of children in the intervention group decreased significantly compared to the pre-test and the control group. This means that the intervention has been able to have a positive and significant effect on the children's sense of loneliness. Loneliness is an unpleasant condition that arises from the difference between interpersonal relationships that people want and the relationships they have with others in real life situations. This feeling is important because it is associated with emotional status, social poverty, behavior, and health of adults, adolescents and children (18).

Garsesa et al. (2012) showed that students who suffer from learning difficulties and disabilities may be more likely than others to be exposed to situations that threaten their mental health, such as depression, loneliness, and isolation (19). To explain this finding, it can be said that the existence of differences in personal, social and psychological characteristics among students plays an effective role in the difference in the degree of loneliness among them.

Cullen (2012) stated that coping cat program reduces anxiety and confusion in children (20). The results of Sabouri et al (1397) study showed that laughter yoga exercises significantly reduced the scores of hopelessness and loneliness in the intervention group at the post-test and followed up stages (18). Findings of Malka (2010) study showed that creative activities such as storytelling reduce the loneliness of emotionally traumatized children and facilitate their mental health (21). Gilton et al. (2015) showed that art therapy is a potential way to improve mental health by increasing positive emotions and ability to cope with depression and negativity, so we can say that storytelling by reducing the sense of loneliness in hospitalized children can promote children's emotional and social health (22). Also in Faramarzi and Moradi (2014) study, the results showed that art therapy such as drawing

was effective in improving the sense of loneliness and despair in deaf male children (23). Haj Mohammadi et al. (2021) stated that use of the logo of coping cat program reduces anxiety in preschool children (24). Therefore, it is possible to increase the quality of life of children and promote their creativity by increasing their social skills (25). Considering the effectiveness of this non-pharmacological and effective treatment method, health care managers and professionals can use this method to reduce the sense of loneliness and anxiety in children(26).

There were some limitations in this study. For example, some children were unwilling to participate in the study. Also, limiting the study to only one primary school was a barrier to generalizability the results to other primary schools. Due to the mentioned limitations, future studies are recommended to use other primary schools to obtain a more generalized result. Further studies with longer followed up time are also recommended, as long-term follow-up evaluation can help to understand the long-term effects of this treatment on children.

CONCLUSION

Results of this study showed that coping cat program reduced the sense of loneliness in children. Since loneliness is a threat to children's mental health and psychosocial function, it can unbalance children's social relationships and create emotional and psycho-social problems in them. Therefore, coping cat therapy can be used to correct dysfunctional attitudes and thoughts, increase social skills, and change avoidance behaviors of children. Also, in this study, the coping cat program, as a simple, inexpensive method with no side effects, was able to reduce the sense of loneliness in children, so this method should be considered by related healthcare managers and professionals.

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