



The effect of training of information processing approach on self-confidence in girl students in vocational schools in Isfahan, Iran

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Original Article

Abstract

BACKGROUND: Self-confidence is one of the main aspects of mental health during adolescence, which is essential for achieving goals. The purpose of this study is to investigate the effectiveness of training information processing approach on self-confidence in female students of vocational schools in Isfahan, Iran.

METHODS: This randomized control trial study was conducted on 50 adolescent female students in Isfahan in academic year 2016-2017. The Eysenck self-esteem scale (ESES) was used to assess self-esteem among the students. Training the information processing approach was performed on the experimental group. Data were analyzed by SPSS software using paired sample t-test, independent t-test, and Kolmogorov-Smirnov (K-S) test.

RESULTS: The scores of the students' self-confidence in the experimental group increased compared to the control group ($P \leq 0.050$).

CONCLUSION: According to the results of this study, training information processing approach is effective on self-confidence in female students of vocational schools in Isfahan. It is suggested to consider the training information processing approach along with other approaches.

KEYWORDS: Information Processing; Self-confidence; Students

Date of submission: 15 July 2019, **Date of acceptance:** 17 Sep. 2019

Citation: Amini F, Amini-Pozveh Z. The effect of training of information processing approach on self-confidence in girl students in vocational schools in Isfahan, Iran. Chron Dis J 2020; 8(3): 112-6.

Introduction

Adolescence is one of the most important stages in the life of individuals which is considered as a critical period in terms of physical, social, and psychological changes.¹ One of the main aspects of the psychological performance in this period is self-confidence.² Self-confidence includes what we think and the emotion about ourselves, which is the outcome of self-assurance and self-respect.³ However, self-confidence depends on the

extent to which a person feels he/she is acceptable from the point of view of others, as well as his overall sense of self-worth. Basically, self-confidence is a gradual process rather than a sudden one, in the sense that it develops over time and is essential to achieve goals.⁴ Self-confidence affects the quality of life (QOL) of individuals and how they feel about themselves.^{5,6} People who feel they are lovable and pleasant to others, have definitely better social relationships, help and support friends and family when they need, and supporting others make them believe that they can overcome the problems and realize their goals.⁷ Therefore, there must be some degree of trust in every human being, the trust that its

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absence is unacceptable for a healthy person. Higher quality and quantity levels of self-confidence guarantee the greater mental health of the individual and a person with high level of self-confidence will have more independency and creativity, and he thinks differently towards failures and control of desires.⁸ Nevertheless, helping the adolescents to restore these cognitive structures and judgments and to carefully investigate the abilities and positive features, one can contribute to develop their self-confidence.⁹

With the advent of cognitive psychology, which emphasizes the information processing models, a new approach emerged. Its basic point is to recognize intelligence based on the cognitive processes performed during intelligence activities.¹⁰ According to this theory, learning opportunities should be provided to improve the process abilities of individuals. In this way, the authorities are the solvers of the problems and develop their capabilities both for immediate satisfaction and for resolving future problems.¹¹ The information processing dimensions begin with screening, transferring, and encryption of data in the short-term memory. It is then stored in the long-term memory and when needed, it is activated and transferred to the active memory to reach the solution.¹² In the cognitive information processing (CIP) theory, problem solving is a chain of intellectual processing that ultimately ends up to solving problems and removing or reducing the gap between the present position and the ideal position of the individual. Achieving this goal depends on the dimensions of information processing such as self-awareness, knowledge, and decision-making skills. In the decision-making process, by talking to themselves, the individuals focus on increasing self-awareness and, by identifying the appropriate time for the next step in the decision-making process, develop their ability to monitor and control the information process.¹³ Moreover, for skills in

the field of implementation, teaching the metacognitive skills to people can be helpful. Therefore, in the cognitive psychology and data processing theory, the relationship between intelligence with learning, thinking, problem solving, and other cognitive processes has been considered.¹² Through efficient control processes (focusing, attention, monitoring, and reviewing) and metacognition (deep thinking or retrieval, tracking, and wonder), new solutions develop.

So far, several studies have been accomplished to enhance self-confidence in students, but the effectiveness of the information processing approach has not been studied in this regard. In this study, it has been attempted to investigate the effectiveness of training the pyramid of information processing approach to students in order to increase self-confidence among them. Since adolescence is a period of struggle and growth that is typically accompanied by a reduction in reliance and dependency on parents and family, developing self-leadership, finding worthiness and beliefs, paying attention to self-confidence in the adolescents seems to be an important problem. Accordingly, this study aims to investigate the effect of training the information processing approach on self-confidence of students of the vocational schools in Isfahan, Iran.

Materials and Methods

The present study was a quasi-experimental design with pre-test and post-test evaluations to compare the experimental group with a control group. The population of the study consisted of adolescent girl students in Isfahan in the academic year 2016-2017. The study including criteria were willingness to participate in the study, students aged 16 to 18 years old, non-attendance in other educational programs, and living with parents, and the exclusion criteria were disinclination to participate in the study. A total of 50 students who had inclusion criteria were randomly

selected and randomly assigned to one of the experimental (25 students) or control groups (25 students). In the pre-test, the study variables were measured simultaneously in both groups. Training the information processing approach was performed in the experimental group, but the control group did not receive any intervention. Finally, the effect of the intervention on the post test scores of the experimental group was compared to that of the control group. The stages of the information processing approach were carried out in 8 sessions of 90 minutes.

Information Processing Approach Protocol: This protocol was intended to teach the information processing approach in 8 sessions as follows, and in each session the therapist set up an assignment after training (Table 1).

Evaluation Tools

Eysenck Self-esteem Scale (ESES): To measure self-confidence, ESES was used which includes 30 items with yes-no options aiming to measure self-confidence. The scores of the items are combined to obtain the total score of the questionnaire. The total score ranges from 0 to 30, with scores above 21, 11-21, and below 11 representing higher levels of self-confidence, moderate self-confidence, and lower self-confidence level, respectively. The reliability coefficient of the questionnaire was obtained as 0.88 and 0.87 using the Cronbach's alpha coefficient and halving methods, respectively.¹⁴

The pre-test and post-test were performed by ESES respectively during the first session and after completion of training of the

information processing approach protocol. The data were analyzed using SPSS software (version 23, IBM Corporation, Armonk, NY, USA) using paired sample t-test, independent t-test, and Kolmogorov-Smirnov (K-S) test. The minimum significance level in the study assumptions was considered to be 0.050.

Results

The findings of this study showed that the mean self-confidence score before the intervention in the experimental group was 16.36 ± 1.99 , and the mean confidence score before the intervention in the control group was 16.94 ± 3.90 ($P = 0.440$). There was no significant difference in the self-confidence scores before the intervention between the experimental and control groups. The mean self-confidence score after the intervention in the experimental group was 18.60 ± 3.29 and the mean confidence score after the intervention in the control group was 16.28 ± 2.00 ($P = 0.004$). There was a significant difference in the self-confidence scores after the intervention between the intervention and control groups (Table 2).

Furthermore, the mean score of self-confidence before the intervention in the experimental group was 16.36 ± 1.99 . The mean confidence score after the intervention in the experimental group was 18.60 ± 3.29 ($P \leq 0.007$). The difference in the self-confidence score before and after the intervention in the experimental group was statistically significant (Table 3).

Table 1. General content of training sessions of information processing approach protocol

Sessions	Educational content of the information processing approach
First	Introduction, expressing the purpose of the session, the concept of the information processing approach, and the history of this theory
Second	Determining the necessity, investigating and teaching self-awareness in adolescents (knowledge field)
Third	Determining the necessity, investigating and teaching how to understand the environment (knowledge field)
Fourth	Training the skill of communication with problems and their analysis (Decision making field)
Fifth	Training solution combination skill (Decision making field)
Sixth	Training solution evaluation skill (Decision making field)
Seventh	Training the skill of better implementation of solutions (field of execution skills)
Eighth	Concluding and providing feedback from participants and taking post-tests

Table 2. Comparison of mean self-confidence score of students in the experimental and control groups before and after the intervention

Variables	Mean \pm SD	P
Self-confidence score before intervention in experimental group	16.360 \pm 1.992	0.440
Self-confidence score before intervention in control group	16.940 \pm 3.196	
Self-confidence score after intervention in experimental group	18.602 \pm 3.298	0.004
Self-confidence score after intervention in control group	16.280 \pm 2.002	

SD: Standard deviation

Table 3. Comparison of mean self-confidence score of students in the experimental group before and after training

Variables	Mean \pm SD	P
Self-confidence score before intervention	16.362 \pm 1.998	0.007
Self-confidence score after intervention	18.608 \pm 3.298	

SD: Standard deviation

Discussion

The aim of this study was to investigate the effect of training the CIP approach to adolescents. The results of the study showed that training the CIP approach is effective on self-confidence in adolescents.

Self-confidence means believing in one's abilities and talents and his proud and positive feelings towards himself.¹⁵ Self-confidence is distinct in facial expression, behaviour, speech, and movement. Individuals with high self-confidence openly face others, are criticisable, and easily accept their mistakes, in addition to believing in their abilities. They have a sense of worthiness both to themselves and to others.^{9,16} It seems that self-confidence increases among the teenagers when they feel that they can solve the problems in their lives using their own capabilities. It should be noted that in the CIP theory, problem solving is a chain of intellectual processing that ultimately ends up to solving problems and removing or reducing the gap between the present position and the ideal position of the individual.¹⁷ Achieving this goal depend on the dimensions of information processing such as self-awareness, Job knowledge, and decision-making skills. In the decision-making process, by talking to themselves, the individuals focus

on increasing self-awareness and, by identifying the appropriate time for the next step in the decision-making process, develop their ability to monitor and control the information process. The first step in the self-confidence development, after clairvoyance, is self-awareness. Self-reliance, narcissism, positive thinking of individuals or positive self-reflection, confrontation with difficulties, reinforcement of will, patience, experiential learning, and self-respect are other factors that can improve self-confidence.^{18,19} The results of this study indicated that training the information processing approach can increase the power of individual analysis and lead to better communication with others in adolescents. These findings are consistent with the results of other studies with different protocols.²⁰⁻²²

Conclusion

As this study had some limitations, and among them, the subjects were selected from girls and in city of Isfahan, and long follow-up of the effectiveness of the treatment course was not performed. Therefore, it is recommended that in addition to the girl students, therapeutic efficacy should be performed in two different gender groups in different cities and after the intervention, follow-up of the effectiveness is required.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

The authors of this study would like to appreciate those who collaborated in

conducting this study.

This study was derived from a MSc thesis with code 18820701952003 approved by Khomeinshahr Branch, Islamic Azad University, Khomeinshahr, Iran

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