Iranian Journal of Educational Sociology
(Interdisciplinary Journal of Education)
Available online at: http://www.iase-idje.ir/
Volume 4, Number 1, March 2021

The Effect of Teaching Philosophy to Children on General Health and Anxiety among the Middle School Students in Tehran

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Article history:
Received: 2020/05/05
Accepted: 2021/03/21
Published: 2021/03/21

Keywords:
teaching philosophy to children, general health, anxiety

Abstract

Purpose: This study was conducted aimed at investigating the effect of teaching philosophy to children on general health and anxiety among middle school students.

Methodology: This was an applied study in terms of purpose and a quasi-experimental one, with a pre-test and a post-test and control and experimental groups, in terms of data collection method. The statistical population included the middle school students in District 5 of Tehran during the period 2009-2010, and the sample size was 30 subjects. Subjects were randomly assigned to the experimental and control groups. Sampling was performed using the convenience sampling method. Data collection tools were the Goldberg's General Health Questionnaire (1972) and the Spitzer's Generalized Anxiety Disorder Questionnaire (1983). The experimental group participated in 8 sessions of a 60-minute philosophy training course that was based on the "Philosophy Lesson plans for Children". Data were analyzed using the analysis of covariance (ANCOVA).

Results: Findings showed indicated that there was a significant difference between the general health scores of the experimental and control groups after teaching philosophy ($P < 0.01$).

Conclusion: The results indicated that teaching philosophy to children had a positive effect on their general health and anxiety.

Please cite this article as: Shahrakipour H. (2021). The Effect of Teaching Philosophy to Children on General Health and Anxiety among the Middle School Students in Tehran. **Iranian Journal of Educational Sociology.** 4(1): 1-9.

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1. Introduction

A branch of training philosophy that deals with the growth of power of philosophical reasoning and thinking in children is the educational approach of philosophy for children. In addition to fostering the power of thinking and pondering on issues, Philosophy for children (P4C) leads to reflective thinking, collaborative thinking, a sense of adequacy in the production and development of ideas, and moral responsibility in children, and prevents them from humiliation, by creating opportunities for attractive exploration around issues that have occupied children's minds. Since there is no end to the questioning in this plant, unlike the old methods, the relationship between teacher and student is emphasized; a relationship in which the teacher estimates the children's capacities for creative and critical thoughts. According to a study conducted at the Durham University, England, P4C has a positive effect on students' self-confidence in speaking and listening skills which leads to the strengthening of their critical thinking and fosters the citizenship and the development of interpersonal and intrapersonal (social) skills in them (Gorard, 2015). Among the most important health problems in the workplace are mental problems and illnesses such as lack of concentration, emotional maladjustment, mental fatigue, reduced enthusiasm to work, and so on. Mental illnesses have been confirmed to exist in advanced societies. However, there were no statistical methods for estimating the frequency and prevalence of these illnesses until the twentieth century (Goldberg and Goodyer, 2014).

General health is a state of well-being in which a person recognizes his or her abilities, is able to adapt to the usual stresses of life, is useful and constructive in his or her work, and work with others as a part of society. Goldberg recognizes mental health as the ability to communicate in harmony with others, to improve and change one's personal and social environment, and to resolve personal conflicts and interests in a balanced and appropriate manner (Gholami, et al, 2013).

The main goal of general health is prevention, and this is achieved by creating an appropriate personal and social environment. Accordingly, the basic principles of general health are: 1. Respect for one's and others' personality. 2. Recognizing one's and others' limitations. 3. Knowing the fact that human behavior is caused by several factors. 4. Knowing the fact that each person's behavior depends on the integrity of his or her existence. 5. Identifying the needs and incentives that cause human's behavior and actions (Shamloo, 2013). According to Dovich and Fish, mental health has four criteria: 1. Knowing the person and the environment: This means that a person is healthy when he or she understands him/herself, his or her own motivations, and needs and desires, recognizes his or her environment, and tries to adapt or dominates it. 2. Individual independence: A healthy person has the power to make decisions based on his or her internal and accepted criteria, and his or her decisions are not subject to external pressures. 3. Adaptive behavior: Adaptive behavior is another criterion for health. Maladaptive behavior is a behavior that deviates from the norms of society. 4. Personality integration: Another criterion of mental health is the personality integrity, which causes coordination between different actions (Shahsavarpanahi, 2010).

Adler argues that a person with general health has a close and friendly family ties, and knows his or her place in the family and social groups correctly. Such a person is purposeful and end-oriented in his or her life, and his or her actions are based on pursuing the goals. The ultimate goal of a healthy personality is self-realization. Another characteristic of general health is that a healthy person regularly examines the nature of his or her goals and perceptions, and corrects his or her mistakes. Such a person is the creator of his own emotions, not their victim. Creativity and physical initiative are other characteristics of this person (Aminian, 2015). Anxiety includes the feelings of uncertainty, helplessness, and arousal, and is often defined as a sporadic, vague, and unpleasant feeling of fear and inquietude (Muller- Pinzler, et al., 2015). Anxiety is an emotion that makes people feel worry and concern, and force them to compromise or change (Willis & Bunge, 2015). Based on Beck's cognitive model of anxiety, what prepares people to interpret a wide range of situations as threatening is their perception of themselves and the outside world. There are a variety of dysfunctional beliefs or assumptions about anxiety, but most of them revolve around issues such

as acceptance, adequacy, responsibility, control, and anxiety symptoms. When anxiety develops in a person, changes in his or her attention and behavior help keep the problem going (Clark et al., 2018).

Anxiety has been described by researchers as a negative emotional mood that is associated with restlessness, inquietude, worry, and physical activation or arousal. In anxiety studies, a distinction is usually made between the state and trait components (Talor, 2014). The trait anxiety is a part of the personality, talent, or cumulative behavioral tendencies that affect behavior. The trait anxiety prepares a person for situations that are not objectively dangerous from psychological or physical aspects, but the person assumes them to be threatening (Stephan, 2014). On the other hand, the state anxiety is a temporary and variable emotional state that arises from the conscious perception of a person's worry and stress, and is associated with the activity of the autonomic nervous system. The degree to which a person believes in his or her ability to cope with challenges is important in creating the state anxiety in addition to experiencing negative thoughts and understanding of physiological activity (Carson & Collins, 2016). Early studies on anxiety were based on the assumption that anxiety is one-dimensional. The Multidimensional Anxiety Theory was presented with the conceptual evolution of anxiety and the continuation of research in this field. This theory identified some connections between cognitive anxiety and somatic anxiety (Ngo, et al., 2017).

One of the most common disorders is anxiety disorder. Anxiety has been reported to consist of two components: the independent component of somatic arousal or somatic anxiety, which focuses more on emotional aspects and physical symptoms such as sweating, flushing, increased heart rate, and the like, and the component of anxiety or cognitive anxiety in which the cognitive aspects outweigh the physical aspects. Assessment of anxiety symptoms is very important in diagnoses and treatment (American Psychiatric Association (APA), 2000). The onset of anxiety can be considered at the age of 13 as a primary disorder and the late 20 as a secondary disorder. However, the mean age of onset of the disorder in various studies has been reported to be between 9 and 33 (Storch, et al., 2015).

The main characteristics of generalized anxiety disorder (GAD) are the constant presence of anxiety, anger, and uncontrollable worry. These states are seen in a person most days over a period of 6 months. Symptoms of GAD include restlessness, aggression, spasm, fatigue, sleep disturbances, and difficulty concentrating. The prevalence of GAD is about 3 to 8%, with a 2:1 ratio in men to women (Segrin & Flora, 2000). Patients with anxiety disorder and GAD have cognitive disorders that impair their ability to communicate effectively with symptoms associated with GAD and other aspects of the environment. For example, in these patients, anxiety interferes with the normal processing of information when using attention, memory, or problem-solving skills. As a result, patients with GAD are more likely to misinterpret external stimuli as dangerous or threatening. Psychotherapy has been proposed to help patients develop behavioral and cognitive strategies so that they can effectively control the physical and cognitive symptoms that interfere with normal functioning. Therefore, it can be used as one of the best approaches for the treatment of anxiety disorder and GAD (Snyder & Dringus, 2014).

The program designed by Matthew Lipman for P4C is in fact a movement in the children's education system that, while benefiting from the views of education thinkers, is somewhat different in method. As a final achievement of the Reflective Paradigm, the program includes several new or modified elements, including "Community of Inquiry", "Fiction Textbooks," and "Teachers with Changed Role" (Maghsoudi et al, 2015).The P4C program uses the Socratic Dialogue and invites children to group discussions by forming a community of inquiry. Communities of Inquiry have characteristics such as non-hostile reflection, shared cognition, development and promotion of literacy, philosophical culture and imagination, strengthening the ability to read, and deep understanding of texts based on dialogue and enjoying them. The main concept of the Lipman's program is to make students skilled and young inquirers. Being an inquirer means being an active explorer and a persistent questioner, a constant consciousness for observing communications and disagreements, a constant readiness to compare, contrast, and analyze hypotheses, and an experience of observation, measurement, and examination. One of the most important tools for

implementing P4C is storytelling because it incorporates the philosophical richness of the desired content and is attractive to children. "Stories have an important feature that life and history lack," says Agan, a contemporary novelist. That feature is that the stories have a beginning and an end. Therefore, they explain the implications of the events (Khoshravesh et al, 2015).

Stories are usually used by authors of books on P4C that have stimulating content and make the person think and ask questions. In addition, various images, films, paintings, and poems, which have been used as teaching aids, are used directly. The formation of P4C classes and courses led to changes in the appearance of classrooms. For example, how to sit in the classroom changed from a row to a circular mode and the teacher was no longer at the centrality of the classroom, and only appeared as a facilitator of learning. It means the teacher became someone who helps the discussion not to deviate from its path, and reminds the students if there is a discrepancy in their speech. The definition of such a role for the teacher can be influenced by Pragmatism School, which considers the teacher as a fulcrum to guide the learning (Gutek, 2016).

Moreover, the teacher is the one who, with the knowledge of the principles of classroom management, implements the new method of teaching, and asks students to defend their opinions and give reasons for them. In this method, students are forced to actively participate in class discussions, and to speak clearly and not vaguely. They try to explain their intentions to others, and in this regard, they learn the art of listening well and speaking in a regular, coherent, and relevant manner. They practice not speaking inconsistently and their views not conflict with obvious principles, that is, they can distinguish between seemingly similar but different results. At the same time, their criticizability and flexibility are strengthened. Philip Cam believes that someone who participates in classroom research should be sensitive to the thoughts and feelings of others. Signs of this sensitivity include: listening carefully to what others say, not interrupting them, waiting his or her turn, and refraining from monopolizing the conversation (Prasad, et al, 2018). The question that this study sought to answer was whether teaching philosophy to children affects the general health and anxiety of the middle school students in Tehran.

2. Methodology

The statistical population included all middle students in District 5 of Tehran. 30 subjects with low scores on general health and high scores on anxiety were selected using the convenience (non-random / voluntary) sampling method. However, the experimental and control groups were randomly assigned, and the statistical sample was randomly assigned to the control and experimental groups (15 subjects in each group).

Table1. Description of holding a teaching philosophy course for the experimental group (Barati, 2016)

Session	Summary of sessions
1	Introduction of people, rules, and the purpose of the training course, and pre-test implementation
2	What is philosophy?
3	Leadership
4	Ethics
5	Justice
6	Freedom and social contract theory
7	Justice
8	Post-test implementation

The General Health Questionnaire (GHO-28), developed by Goldberg (1972) and standardized by Hommant (1998), is used to identify non-psychotic mental disorders as well as in healthy populations to diagnose mild mental disorders. The questions are answered on a three-point Likert scale. It is worth noting that the high scores in this test indicate the low health status of the subject, so this should be taken into account in the interpretation of the correlations obtained in this regard. The 28-item form of the General Health Questionnaire has four subscales, including physical symptoms, anxiety, social

dysfunction, and depression. An overall score for the subjects' health is obtained from the total scores of these four subscales. Spielberger's State-Trait Anxiety Inventory (STAI) (1983) has been used deeply in clinical research and practice. The inventory includes separate self-report scales to measure the state and trait anxiety. STAI consists of 40 items in which 20 items measure the state anxiety and 20 items measure the trait anxiety. The state anxiety can be considered a part of a person's life. In other words, its occurrence is situational and dedicated to stressful situations (debate, loss of social status, threat to human security and health, etc.). However, the trait anxiety refers to individual differences in response to stressful situations with varying degrees of the state anxiety. The state and trait anxiety are comparable in some areas, such as kinetic and potential energies. Like kinetic energy, the state anxiety refers to a tangible reaction or process that occurs at a given time and at a certain level of intensity.

3. Findings

The main hypothesis: Teaching philosophy to children affects the general health and anxiety of students.

Table2. The results of ANCOVA of the main hypothesis regarding the significant difference between the scores of anxiety and general health among the experimental and control groups

		Value	F	The degree of freedom of assumption	The error degree of freedom	Significance level	Eta squared
Intergroup	Pillai's Trace	0.996	7674.89	2	27	0.001	0.996
	Wilks Lambda	0.004	7674.89	2	27	0.001	0.996
	Hotelling's Trace	279.087	7674.89	2	27	0.001	0.996
	Roy's Largest Root	279.087	7674.89	2	27	0.001	0.996

In multivariate analysis of covariance (MANCOVA), four tests are calculated, including the Pillai's Trace, the Wilks Lambda, the Hotelling's Trace, and the Roy's Largest Root. The value of the significance level in all tests was less than 5%. In other words, the hypothesis was confirmed with a 95% confidence level. On the other hand, given the Eta squared value of 0.996, it could be argued that the independent variable explained a relatively high value of the total variance. That is, it explained about 99% of the total variance of the dependent variable.

Table3. The results of ANCOVA of the main hypothesis regarding the significant difference between

		Sum of squares	Degrees of freedom	Mean square	F	Significance level	Eta squared	power of the test
Intergroup	Anxiety	1325.4	1	1325.4	29.24	0.001	0.635	1
	General health	1550.4	1	1550.1	19.3	0.001	0.427	1
Error	Anxiety	2522.26	27	45.04				
	General health	4562.4	27	81.47				
Total	Anxiety	589036	30					
	General health	221689	30					

Based on Table 3, the main hypothesis was confirmed. The weighted mean scores indicated that there was a significant difference between the anxiety scores of the experimental and control groups and the hypothesis was confirmed. In other words, after weighting the pre-test and post-test scores, there was a significant effect of the factor among the subjects ($P < 0.005$). In other words, the main hypothesis was confirmed with a 95% confidence level. In addition, the effect size was 0.635 and the statistical power was 1. All of the above was also true for general health, except that the statistical power was 1 and the effect

size was 0.427. The first sub-hypothesis: Teaching philosophy to children affects the general health of students.

Table4. The test for homogeneity of variance (homoscedasticity)

	F	The degree of freedom 1	The degree of freedom 2	Significance level
General health	0.855	1	28	0.470

According to Table 4, general health had homogeneous variances, and there were no statistically significant differences between error variances. Finally, the condition of the homogeneity of the covariance matrix was observed.

Table5. The results of ANCOVA of the first sub-hypothesis regarding the significant difference between the general health scores of the experimental and control groups

	Sum of squares	Degrees of freedom	Mean square	F	Significance level	Eta squared	power of the test
Variance	1490.01	1	1490.01	18.28	0.001	0.246	0.988
Group	1550.41	1	1550.41	19.03	0.001	0.254	0.990
Error	4562.4	28	81.47				
Total	221689.0	30					

Table 5 shows that there was a significant difference between the general health scores of the experimental and control groups. In other words, after weighing the pre-test scores, there was a significant effect of the factor among the subjects and the first sub-hypothesis was confirmed with a 95% confidence level.

Table6. Mean weighted post-test scores of general health

	Frequency	Mean	Standard deviation
Control	15	52.06	9.29
Experimental	15	72.20	7.58

According to Table 5, the standard deviation of general health in the post-test of the control group was 9.29, which improved in the experimental group. The second sub-hypothesis: Teaching philosophy to children affects the anxiety of students.

Table7. The test for homogeneity of variance (homoscedasticity)

	F	The degree of freedom 1	The degree of freedom 2	Significance level
Anxiety	3.901	3	26	0.053

According to Table 6, anxiety had homogeneous variances, and there were no statistically significant differences between error variances. Finally, the condition of the homogeneity of the covariance matrix was observed.

Table8. The results of ANCOVA of the second sub-hypothesis regarding the significant difference between the general health scores of the experimental and control groups

Source of variance	Sum of squares	Degrees of freedom	Mean square	F	Significance level	Eta squared	power of the test
Variance	1325.40	1	1325.40	29.42	0.001	0.309	0.998
Group	1926.66	1	1929.66	42.77	0.001	0.423	1
Error	2522.66	27	45.04				
Total	589036.0	30					

Based on Table 7, the second sub-hypothesis was confirmed. The weighted mean scores indicated that there was a significant difference between the anxiety scores of the experimental and control groups. In other words, after weighting the pre-test and scores, there was a significant effect of the factor among the subjects. In other words, the second sub-hypothesis was confirmed with a 95% confidence level.

Table9. Mean weighted post-test scores of general health

	Frequency	Mean	Standard deviation
Experimental	15	83.80	6.40
Control	15	101.86	4.72

4. Discussion

The hypothesis was tested using the analysis of covariance (ANCOVA). The results indicated that there was a significant difference between the general health scores of the experimental and control groups after teaching philosophy ($P < 0.01$). In explaining the finding that teaching philosophy to children affects the general health of middle school students, it can be said that the P4C program is basically an interactive approach in which the teacher plays a guiding role and students, as thoughtful people, try to participate in conversations and interactions with each other. Collaborative learning strengthens students' general health, enables them to communicate with others, controls their behavior in different situations, and increases their ability to learn with others and through others, all of which are important in the present age. It can be said that a large part of people's success in teaching philosophy to children depends on the general health of students. Students cannot learn logical concepts until they have high mental health.

In explaining the finding that teaching philosophy to children affects the anxiety of middle school students, it can be said that when people face problems in their lives, they become anxious and fearful, and may react inappropriately if they lack the ability to endure or the right solution to solve the problem. However, teaching philosophy helps these people to react positively to stressful and ambiguous situations, and to avoid negative thoughts. Basically, the right thinking about challenges and effective mastery of them is reinforced in the person to whom philosophy is taught. Such a person, with more confidence, changes his or her thoughts, feelings, and behavior in different situations and acts creatively and reasonably because according to Gorard (2015), the goal of P4C is to help children who are more willing and able to ask questions discuss and reason logically.

People with high facilitating trait anxiety tend to interpret uncertainties as a positive emotion or challenge, and people with high debilitating trait anxiety tend to interpret uncertainties as threatening. People with high debilitating anxiety show a significant threatening bias in negative mood conditions, meaning that they often interpret vague words as threatening in negative moods. On the other hand, people with high facilitating anxiety show a significant bias in positive mood conditions. This means that they interpret vague words much more positively when their mood is positive than when their mood is neutral or negative. In general, it can be concluded that there is no relationship between the severity of anxiety and the interpretation of vague words as threatening. However, the interpretation of vague information depends on the method of interpreting the anxiety, that is, whether the anxiety is threatening or debilitating. Based on the above, it is recommended that teaching philosophy to children courses be used by the education system at all levels of education, especially in the middle school, so that students' mental health is improved and their anxiety is reduced.

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