Comparison of the Effectiveness of Cognitive-Social Training and Coaching Training on Self-awareness in High School Female Students

Nahid Khatibzadeh[1], Mehrdad Sabet[2]*, Fariborz Dortaj[3], Nasrin Bagheri[2]

1. Educational Psychology, Roodehen Branch, Islamic Azad University, Roudehen, Iran

2. Department of Psychology, Roodehen Branch, Islamic Azad University, Roudehen, Iran

3. Department of Educational Psychology, Faculty of Psychology and Educational Sciences, Allameh Tabataba'i University, Tehran, Iran

* Corresponding author's Email: mehrdadsabet@yahoo.com

Abstract: The primary objective of this study was to assess and compare the impact of cognitive-social training and coaching interventions on the self-awareness levels of female high school students. The research employed a semi-experimental design featuring pretest, posttest, and a follow-up phase, with the inclusion of a control group. The study's target population encompassed all female high school students in District 2 of Tehran in 2022. The final sample comprised 45 participants, with 15 individuals assigned to each of the three groups: experimental group 1, experimental group 2, and the control group. The participants were selected through a convenience sampling method. In this research, the experimental groups 1 and 2 received distinct training interventions: experimental group 1 received coaching training based on Bazargan's package (2018), while experimental group 2 underwent cognitive-social training following Vernon, and Doyle materials (2017). In contrast, the control group did not receive any form of training. Data collection involved administering the Cooper Self-awareness Questionnaire (1997). The hypotheses were subjected to examination using mixed-design analysis of variance, followed by the Bonferroni post-hoc test. The study's outcomes revealed a significant increase in self-awareness scores for both the cognitive-social training and coaching groups compared to the control group. Furthermore, this positive effect was sustained during the follow-up phase. Notably, cognitive-social education exhibited a higher level of effectiveness in enhancing self-awareness among the students when compared to coaching. These findings suggest that implementing cognitive-social and coaching educational approaches, particularly cognitive-social training, holds the potential to enhance self-awareness in high school students.

Keywords: Self-awareness, Cognitive-Social training, Coaching-based training, High-school students

Introduction

Adolescence represents a pivotal phase in life, laying the groundwork for physical, psychological, emotional, spiritual, and social maturity (Sawyer et al., 2012). Recognized globally, adolescent health now stands as a fundamental cornerstone of societal well-being. Among these needs, the psychological and emotional requirements of adolescent girls have come to the forefront, drawing special attention from governments, organizations, and social institutions. This heightened focus arises due to the psychological, emotional, and values-based transformations experienced during this period, with adolescent girls emphasizing their psychological needs (Damon et al., 2019).

With today's youth comprising a larger proportion of the population than ever before, prioritizing adolescent health has become of paramount significance. The characteristics of the high school years, marked by the gradual development of cognitive capacities, underscore the importance of self-awareness (Najafi & Bigdeli, 2012).

Self-awareness entails an individual's perception of themselves and the emotions stemming from this perception. The type of self-awareness one possesses predicts self-esteem and overall life satisfaction (Blakemore & Agllias, 2019). During adolescence, self-awareness is critical for forming a sense of identity, nurturing interpersonal and academic relationships, and effectively confronting and resolving challenges. By imparting insight into themselves and aiding in the recognition of strengths, weaknesses, desires, fears, and dislikes, self-awareness allows individuals to acknowledge both their positive and negative aspects (Sutton, 2016).

Stronger self-awareness serves as a potent predictor of the psychological well-being of adolescent girls, translating into heightened self-esteem (Morowatisharifabad et al., 2019). Notably, self-awareness appears to intersect with students' ethical behavior. When individuals possess a robust understanding of their capabilities, they can aptly respond to various situations. In contrast, weak self-awareness correlates with vulnerability across psychological, social, occupational, and educational domains, rendering individuals less capable of effectively and ethically regulating their behavior when confronted with ethical dilemmas (Blakemore & Agllias, 2019)

In this context, the cognitive-social theory underscores the influence of environmental factors on shaping behavior. Bandura's theory posits the interrelatedness and mutual influence of individuals, their environment, and their behavior. The cognitive-social theory encompasses nine constructs: environment, behavioral capacity, outcome expectations, outcome values, self-regulation, observational learning, reinforcements, self-efficacy, and emotional coping (Sharma, 2021). An abundance of studies underscores the substantial role of observation and imitation of others' behaviors in human learning. Observational learning, or modeling, involves acquiring knowledge by observing others and emulating their conduct, constituting a fundamental life skill (Hayden, 2022). As per the findings of the study by Sotoodeh et al. (2018), adolescence represents an opportune phase for education through observational learning.

Coaching education represents an alternative teaching methodology that fosters the enhancement of self-awareness, ethical conduct, and time management proficiencies among students. This educational approach has received formal recognition and approval as an empowerment skill (Kessler & Graham, 2015). Coaching leverages cognitive-behavioral techniques and strategies to assist individuals in attaining their objectives, placing a strong emphasis on equitable relationships in which the learner's

autonomy and decision-making hold paramount importance for the ultimate outcome (Graham et al., 2009).

In light of the significance of the high school period and previous research underscoring the importance of self-awareness during this developmental stage, coupled with the demonstrated efficacy of cognitive-behavioral education and coaching methodologies across diverse domains, this study endeavors to investigate whether differences exist in the effectiveness of cognitive-behavioral education and coaching concerning the enhancement of self-awareness in high school female students. Furthermore, it seeks to determine which approach proves more efficacious in this regard.

Material and Methods

The present study was semi-experimental research employing a pretest-posttest design with a follow-up, including a control group. The statistical population for this research comprised all female high school students in District 2 of Tehran city in 2022. The research sample consisted of 45 participants, with 15 individuals assigned to each group—specifically, 15 in the first experimental group, 15 in the second experimental group, and 15 in the control group. Convenience sampling was used in participant selection. This research was conducted with the permission and code IAU-1398-PSY-14 of ethics from the Islamic Azad University of Roodehen and Psychological Association.

Inclusion criteria for the experimental groups encompassed the following: 1) No significant stress-inducing events, such as divorce or the loss of loved ones in the past six months, 2) Being single, 3) Roughly equivalent academic levels among students within each class, 4) Willingness to participate in the study, and 5) No severe physical or mental health issues. Exclusion criteria for the experimental groups included: 1) Non-attendance in more than two experimental sessions, 2) Lack of interest in continuing participation in the experimental sessions, 3) Suffering from a severe illness or mental disorder requiring immediate treatment, and 4) Changing schools or migration.

Data for this research were collected using the Cooper Self-awareness Questionnaire. This questionnaire consists of 25 items, graded on a Likert scale ranging from 0 to 3. Cooper (1997) reported the validity of the questionnaire using appropriate construct validity and indicated a reliability coefficient of 0.84, employing the Cronbach's alpha method. In Iran, after the questionnaire's translation by Azizi (1998), its reliability was estimated at 0.74 through a test-retest method on 52 students from Touiserkan city using Pearson's correlation coefficient and 0.84 using the Cronbach's alpha method. In the research conducted by Kordnoghabi et al. (2014), the questionnaire's reliability was determined as 0.74 using Cronbach's alpha. In the present research, the reliability of this instrument was calculated as 0.82 using Cronbach's alpha.

Regarding the research implementation process, after obtaining the necessary research permits from the Tehran City Department of Education and presenting the research objectives, the self-awareness and ethical behavior questionnaires were concurrently administered to female high school students. Prior to commencing the cognitive-social and coaching educational sessions, a 45-minute explanatory session was held separately for each group to discuss the general principles, rules, and objectives of the study. Following the pretest, participants in the first experimental group received 9 weekly 45-minute sessions of cognitive-social training (Vernon & Doyle, 2017) (see Table 1), while those in the second experimental group underwent 8 weekly 45-minute sessions of coaching training (Bazargan, 2018) (see Table 2). The educational sessions were conducted over a two-month period, followed by a re-assessment after a 60-day follow-up period. To compare the results of the three groups while considering the research assumptions (Kolmogorov-Smirnov test, Levine test, and homogeneity of regression slopes), a mixed-design analysis of variance and Bonferroni follow-up test were employed.

Table 1. Summary of cognitive-social training sessions

Session	Aims	Content
1	Knowing the reasons, tell and tell friends Achieving the skills needed to cope with friendship problems	Explanation of the meeting process and pre-test Teaching about the role of peers in adolescents' lives Using the technique of arguing with peers, explaining the process of meetings and performing pre-tests
2	Acquiring the necessary skills for wise thinking Using the skills needed to think wisely to solve relationship problems	Although adolescents have the ability to think abstractly, most of them still cannot think abstractly. Therefore, using the technique of reasonable relationships, adolescents are taught in this field.
3	Considering the positive and negative aspects of peer pressure Considering the consequences of peer pressure resistance	Adolescents in this period are looking for social acceptance, peer pressure is evident in many of their relationships. Using the pressure technique, peers are taught in this field.
4	Familiarity with different styles of giving and receiving feedback Skills in giving and receiving feedback	Friends play an important role in adolescents' lives, and their feedback has a significant impact on adolescents. Therefore, adolescents need to learn the necessary skills to give the right feedback and get the right feedback. Using the Friends Feedback Fan
5	Understanding how thoughts affect emotions and actions	Adolescents can respond better to situational and developmental pressures if they better understand the relationship between thoughts, feelings, and actions. Using the art of thinking, feeling and acting.
6	Evaluating decisions and identify outcomes Learning ways to change negative behavior	Adolescents, however, often consider the consequences of their decisions. But many of them ignore the consequences as a result of carelessness or intent. The technique of catastrophic results can be helpful in this regard.
7	Learning effective problem-solving skills	Adolescents often make problems worse because they have their own assumptions about how people react, do not take risks, and do not care what happens to them. Problem-solving skills help adolescents.
8	Becoming proficient in realistic assessment of situations Becoming proficient in good reasoning	Adolescents are usually not realistic in assessing situations. This lack of realism affects their reactions. Therefore, they can be taught with the art of realistic reasoning to correct their own mental errors that lead to their failed behaviors.
-	-	Summarize and review the contents of pre-test and post-test sessions

Table 2. Summary of coaching training sessions

Session	Content
1	Helping clients to recognize their goals and priorities in life: introducing and explaining the details of the intervention and setting goals by completing the questionnaire. Goals were as specific, measurable and achievable as possible.
2	Preparing a vision for the client's personal, social or professional life with his participation: starting the problem solving process for one of the set goals and also providing a print sheet of the problem solving process. In this meeting, the student specified that he would perform at least two different behaviors regarding the desired goal during the next week.
3	Helping clients to prepare a plan to move forward: checking the first goal and starting the next goals (one to two behaviors for each goal)
4	Determining the obstacles of authorities in realizing their main goals and checking the progress in all goals
5	Motivate to take practical steps to achieve goals and check progress in all goals
6	Helping to obtain tangible and measurable results and checking progress in all goals
7	Acknowledging and appreciating the clients' small successes, reviewing the goals, and setting an introduction for the end of the intervention sessions
8	Planning and moving towards the next goals and making decisions about the goals that were not achieved and ending the intervention by completing the questionnaires again

Results

The average age of the participants in this research sample was 16.11, with a standard deviation of 1.29. The age range of the participants varied from 15 to 19 years old. Ten individuals, equivalent to 23% of the participants, were in the first grade, 11 individuals, equivalent to 24%, were in the second grade, 11 individuals, equivalent to 24%, were in the third grade, and 12 individuals, equivalent to 27%, were pre-university students. To test the hypothesis regarding the significant difference between the effectiveness of cognitive-social education and coaching education on participants' self-awareness, a mixed-design analysis of variance was used. Before conducting the analysis of variance, the assumptions of normal distribution, homogeneity of variances, and homogeneity of linear regression slopes were examined (Tables 3 to 5). The mean and standard deviation of participants' self-awareness scores, categorized by group and measurement stage, are presented in Table 6.

Table 3. Kolmogorov-Smirnov test for examining the normality of score distribution in the post-test stage

Variable	Group	K-S	DF	p
Self-awareness	cognitive-social training	0.31	14	0.09
	Coaching training	0.22	14	0.11
	Control	0.16	14	0.08

According to Table 3, and considering that the significance level is greater than 0.05, the distribution of scores in the three groups is normal.

Table 4. Levene's test for examining the homogeneity of variances in post-test scores

Variable	F	DF1	DF2
Self-awareness	0.73	2	42

According to Table 4, the variances of the two groups are equal and homogenous. Therefore, the assumption of homogeneity of variances for this variable was achieved.

Table 5. Assumption of homogeneity of regression slopes

Source	SS	MS	F	p
Self-awareness	16421.16	7381.93	1.83	0.16

Additionally, according to Table 5, since the significance level for the interaction between the two groups is greater than 0.01, and there is no significant interaction, the assumption of homogeneity of regression slopes was confirmed.

Table 6. Mean and standard deviation of self-awareness scores by group and measurement time

Group	Pretest		Posttest		Follow up	
	Mean	SD	Mean	SD	Mean	SD
Cognitive-social training	40.23	6.13	45.18	6.40	46.04	5.11
Coaching training	39.36	5.48	43.09	7.12	43.55	4.43
Control	40.11	7.30	39.79	6.92	38.50	7.86

The results of the mixed-design analysis of variance (ANOVA) to examine the impact of the group factor and the time factor on self-awareness scores are presented in Table 7.

Table 7. Results of the mixed-design analysis of variance (ANOVA)

Source	SS	DF	MS	F	p	Eta	Power
Group	15621.16	2	6381.53	16.28	0.001	0.31	0.78
Error	8729.06	42	3739.17				
Time	3920.27	2	19.4.84	41.26	0.001	0.42	1
Group * Time	14639.47	4	4826.94	36.73	0.001	0.39	1
Error	2530.15	39	64.39				

According to the findings in Table 7, both cognitive-behavioral education and coaching significantly affect self-awareness scores in the post-test phase ($F_{(2, 42)} = 16.28$, $P < 0.003$). Furthermore, the effect of the time factor on self-awareness scores in the follow-up stage is significant ($F_{(2, 39)} = 41.26$, $P < 0.001$). Therefore, it can be concluded that there is a difference in self-awareness scores across the three stages: pre-test, post-test, and follow-up, regardless of the group. Also, the interaction effect between the group and time is significant ($F_{(2, 39)} = 36.73$, $P < 0.001$). Consequently, the group effect varies at different measurement time points.

By considering the eta squared (η^2) of 0.31, it can be inferred that the experimental intervention resulted in changes in the experimental group, accounting for 0.31 of the total variances. Therefore, post-education has an impact on self-awareness. To compare the effectiveness of the provided education methods, the means of self-awareness for the groups were compared using the Bonferroni follow-up test (Table 8).

Table 8. Results of Bonferroni follow-up test

Reference group	Comparison group	Mean differences	Std. Erro	p	Low limit	High limit
Cognitive-behavioral coaching	Coaching	4.26	4.01	0.001	-5	14
	Control	13.35	4.01	0.01	1	24
Coaching	Control	8.27	4.01	0.01	-2	19

According to Table 8, the difference between the means of both experimental groups compared to the control group in the post-test is negative and significant. Therefore, concerning the hypotheses related to the effectiveness of these two types of education in increasing students' self-awareness, the null hypothesis is rejected, and the alternative hypothesis is confirmed. This means that both experimental approaches (cognitive-behavioral education and coaching) have been effective in increasing students' self-awareness. When comparing the efficacy of the two experimental groups, a statistically significant difference in means is observed at a 99% confidence level. This finding confirms the hypothesis that there is a difference in the effectiveness between the two treatment methods. Given the favorable direction of these differences and the higher mean score in the cognitive-behavioral education group compared to the coaching group, we can conclude that among the cognitive-behavioral education and coaching approaches, the cognitive-behavioral education method has proven to be more successful in enhancing students' self-awareness.

Discussion

The primary objective of this research was to assess the comparative effectiveness of cognitive-behavioral education and coaching in enhancing self-awareness among high school female students. The results of the study demonstrated the effectiveness of both interventions in improving self-awareness. Additionally, it was found that the cognitive-behavioral education approach outperformed coaching in terms of increasing students' self-awareness. This observation is consistent with findings from prior studies conducted by Kafi Nia and Farhadi (2020), Bromandian et al. (2019), Kordnoghabi et al. (2014), Ziaei et al. (2018), and Perez (2011).

To shed light on this discovery, it can be argued that both educational methods possess attributes that contribute to various facets of self-awareness. Coaching, for instance, plays a pivotal role in enhancing

an individual's self-awareness by fostering learner interactions with others and acquainting them with their strengths and weaknesses from the perspectives of others. On the other hand, cognitive-behavioral education provides extensive information and imparts diverse skills within a limited timeframe, equipping individuals with essential self-awareness information crucial for the learning process. Both methods have inherent qualities that render them effective for self-awareness development. However, the interactive learning environment within the cognitive-behavioral approach, where students receive feedback from their peers regarding their own attributes, allows them to gain deeper insights and information about dimensions of themselves that remain concealed but are evident to others, thus making it more effective.

Each of these two methods emphasizes different dimensions of self-awareness owing to their inherent characteristics. Cognitive-behavioral education accentuates the enhancement of social self-awareness, while coaching focuses on strengthening personal and even latent aspects of an individual. In coaching, coaches engage in profound content processing and connect it to learners' prior knowledge by posing diverse questions about the subject under discussion and offering focused attention. This process enhances cognitive structures, resulting in longer retention of ideas learned about a subject compared to fragmented and unconnected information acquisition. This approach fosters increased self-awareness regarding concealed aspects of the individual known to others through greater learner participation and engagement. Consequently, self-awareness is heightened.

Within the cognitive-behavioral approach, educators prioritize material organization, efficiently utilize available teaching time, and fully facilitate students' learning activities, simplifying the learning process. Furthermore, effective classroom management by teachers leads to reduced disruptive behaviors among students and enhanced learning outcomes. Coaches offer personalized support by meticulously selecting suitable tasks, delivering clear lesson-related information, teaching problem-solving techniques, continuously monitoring individual learning progress, and providing effective assistance through remedial teaching. Moreover, content delivery follows an organized structure, greatly benefiting learners with weaker cognitive and metacognitive strategies. Another reason behind the effectiveness of this intervention is the incorporation of homework, which promotes experiential learning. By employing these techniques, students create opportunities to introspect or use self-assessment methods that require independent work, ultimately boosting their self-awareness.

Self-awareness, as a prerequisite for emotional intelligence, has the potential to be enhanced through therapy. In this regard, the educational group brings about a behavioral simulation for individuals and can be effective in raising awareness regarding emotions, oneself, and others. Through self-awareness of emotions, which is considered one of the most critical foundations for emotional regulation,

65

adolescents can be guided toward controlling and regulating their emotions, subsequently leading to adaptive behaviors. Verbal expression of emotions can play a significant role in distinguishing emotions through verbalizing feelings, thereby aiding in recognizing emotional differences. Participants' familiarity with cognitive-social foundations leads to an increase in their self-awareness. This heightened self-awareness motivates them to exert greater control over their behaviors, as they realize that external stimuli, such as words or others' taunts, are not the sole initiators of their reactions; rather, an individual's interpretation and perspective can also influence emotional responses.

On the other hand, coaching imparts skills to individuals to perceive others' evaluations positively, preventing them from becoming disoriented. Emotions are a controllable phenomenon, and individuals can control and moderate their emotions by increasing awareness and learning effective techniques and strategies. Therefore, participants in coaching programs acquire the necessary cognitive skills and, by enriching their behavioral repertoire in various situations, exhibit more adaptive responses. Additionally, it teaches individuals effective coping strategies for dealing with psychological pressure, including relaxation techniques, which are efficient tools for maintaining balance in one's body during physical and emotional arousal, and assertion, which teaches individuals the correct way to make requests from others or decline unjust demands. Coaching also helps individuals enhance their social skills, promoting trust in others to the greatest extent possible.

The limitations of this research include its restriction to high school female students in district 2 of Tehran, as well as the non-utilization of random sampling. Therefore, it is recommended that to enhance the generalizability of the results, this research be conducted in other provinces and regions with diverse cultures, utilizing random sampling methods. Furthermore, it is suggested that cognitive-social group education and coaching be taught to psychologists and school counselors through specialized workshops so that they can facilitate students' self-awareness by implementing these teachings.

References

Bazargan, Z. (2018). What is coaching and what is not coaching. *Elementary Education Roshd*, *22*(2), 14-17.

Blakemore, T., & Agllias, K. (2019). Student reflections on vulnerability and self-awareness in a social work skills course. *Australian Social Work*, *72*(1), 21-33.

Bromandian, N., Mohammadi, N., & Rahimi Taganki, C. (2019). Comparison of the effectiveness of group therapy based on interactive and psychographic methods on the emotional self-awareness of adolescent girls with psychological distress. *Journal of Psychological Achievement,*, *1*(27), 1-22.

Cooper, R. K. (1997). Applying emotional intelligence in the workplace. *Training & development*, *51*(12), 31-39.

Damon, W., Menon, J., & Bronk, K. C. (2019). The development of purpose during adolescence. In *Beyond the Self* (pp. 119-128). Routledge.

Graham, F., Rodger, S., & Ziviani, J. (2009). Coaching parents to enable children's participation: An approach for working with parents and their children. *Australian Occupational Therapy Journal*, *56*(1), 16-23.

Hayden, J. (2022). *Introduction to health behavior theory*. Jones & Bartlett Learning.

Kafi Nia, F., & Farhadi, h. (2020). The effectiveness of group cognitive - behavioral therapy on emotional self - awareness and problem - solving skill of students with internet addiction [Research]. *Journal of Psychological Science*, *19*(85), 111-120. http://psychologicalscience.ir/article-1-344-fa.html

Kessler, D., & Graham, F. (2015). The use of coaching in occupational therapy: An integrative review. *Australian Occupational Therapy Journal*, *62*(3), 160-176.

Kordnoghabi, P. D., R., Jahan, F., & Bakhtiari, I. (2014). The Effectiveness of Lecture Methods of Instruction and Group Discussion in Learning Self-Awareness Skill among Students [Research]. *Quarterly Journal Of Family and Research*, *10*(4), 101-120. http://qjfr.ir/article-1-99-fa.html

Morowatisharifabad, M., Miri, M., Sharifzadeh, G., Dastgerdi, R., Vahdaninia, V., Baghernezhad, F., & Vahdaninia, Z. (2019). The effect of training based on social cognitive theory on the life skills of adolescent girls [Descriptive]. *Payesh (Health Monitor) Journal*, *18*(5), 485-495. http://payeshjournal.ir/article-1-1188-fa.html

Najafi, M., & Bigdeli, I. (2012). The Role of Life Skills in the Prediction of Students' Mental Health. *Counseling Culture and Psycotherapy*, *3*(11), 101-116. https://doi.org/10.22054/qccpc.2012.6081

Perez, L. M. (2011). Teaching Emotional Self-Awareness through Inquiry-Based Education. *Early Childhood Research & Practice*, *13*(2), n2.

Sawyer, S. M., Afifi, R. A., Bearinger, L. H., Blakemore, S.-J., Dick, B., Ezeh, A. C., & Patton, G. C. (2012). Adolescence: a foundation for future health. *The lancet*, *379*(9826), 1630-1640.

Sharma, M. (2021). *Theoretical foundations of health education and health promotion*. Jones & Bartlett Learning.

Sotoodeh, M., Talebi, R., & Ramin, H. (2018). Comparison of functions of observational learning in male and female Taekwondo Elite and Non-elite athletes. *Motor Behavior*, *14*(1), 22-31.

Sutton, A. (2016). Measuring the effects of self-awareness: Construction of the self-awareness outcomes questionnaire. *Europe's journal of psychology*, *12*(4), 645.

Vernon, A., & Doyle, K. A. (2017). *Cognitive behavior therapies: a guidebook for practitioners*. John Wiley & Sons.

Ziaei, T., Gorzin, M., Aval, M. R., & Behnampour, N. (2018). Effectiveness of Self-awareness based Individual counseling on self-awareness of women in reproductive age. *Middle East Journal of Family Medicine*, *16*(1).