

A Test Investigation To Assess The Impact Of Cbt On Teenagers' Emotional Intelligence

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ABSTRACT

Introduction: Emotional intelligence is defined as the ability to recognize, assimilate, understand, and control one's own and others' emotional states in order to promote emotional and intellectual development and improve personal and professional efficiency. Cognitive behavioral therapy focuses on recognizing and confronting harmful ideas in order to help clients stop thinking patterns and modify their behavior. Making a connection between a client's thought triggers, emotions, and behavior may result in a new perspective and course of action. **Objective:** The study aims to find out the level of emotional intelligence among teenagers and to study the impact of cognitive behavior therapy on the degree of emotional intelligence. **Methodology:** This study was carried out with adolescent students studying in private and government schools located in Dehradun. A total of 40 male and 40 female teenagers satisfying the inclusion and exclusion criteria were taken with written consent. A total of 15 sessions of cognitive behavior therapy were provided. Emotional intelligence data was collected using Mangal's emotional intelligence inventory and analyzed by using the t-test. **Results:** For all 80 participants, the initial level of emotional intelligence was in the below-average category. After 15 cognitive behavior therapy sessions, the subjects' emotional intelligence increased to an upper level, with an average increase of 47.82%. **Conclusion:** The study demonstrated that teenagers' current emotional intelligence levels were in the below-average category, which improved significantly following cognitive behavior therapy.

This confirms that cognitive behavior therapy is useful in improving teenagers' emotional intelligence to a desired level.

Kry words: teenagers, emotional intelligence, gender, cognitive behavior therapy

1.0 Introduction

Emotional intelligence (EI) constitutes a unique form of intelligence and, from performance-based ability models, is conceptualized as the integration of several abilities: use, manage, understand, and regulate emotions. It is a combination of emotional personality traits. It is not a set of cognitive-emotional skills but "a constellation of inclinations and self-perceived strengths." Both personality characteristics associated with emotions and emotional capacities are types of emotional intelligence. Self-awareness and self-regulation help one become more aware of one's actions and have greater influence over his or her behavior. Social skills and empathy can help us understand how to deal with people and why they act the way they do. With higher levels of emotional intelligence, we can achieve motivation, which may help us to move forward and flourish in our lives. CBT can assist the client in understanding that there is a gap between stimulus and reaction (trigger and behavior) and that one can use that gap to move from reacting impulsively to responding carefully. Here is a simplified picture of this area based on how human brains work. The prefrontal cortex (the thinking and analytical region of the brain) evaluates the information and sends it to the limbic system, which then sends it to the body. This approach represents the gap between inputs and reactions. The thalamus sends a shorter signal to the amygdala (also in the limbic system), which reacts to the perceived threat immediately. It is termed "emotional hijacking," and it reduces the stimulus-response time. It causes a person to fight, flee, or freeze (**Lochman et al., 2019; Matthys & Lochman, 2017**). Assisting clients in understanding the role of their ideas, emotions, and behaviors in the present circumstances allows counsellors to help them modify and develop appropriate responses. Brief, action-oriented CBT focuses on identifying and confronting negative beliefs to help clients cease thinking patterns and improve behavior.

Cognitive behavioral therapy (CBT) is particularly relevant for children from 7 years on and adolescents with clinical levels of conduct problems. CBT provides these children and adolescents with anger regulation and social problem-solving skills that enable them to behave in more independent and situation appropriate ways (**Garland et al., 2008; Lochman et al., 1981**). Typically, CBT is combined with another psychological treatment, such as behavioral and parent training in childhood or an intervention targeting multiple systems in adolescence.

In CBT programs, social problem solving is a core theme. Children and adolescents are encouraged to produce as many solutions as possible, which are then categorized into solution types such as help seeking, verbal assertion, compromise, verbal aggression, and physical aggression. One may question whether CBT therapists should work on this with children and adolescents independently of parents and teachers. Children's learning to generate appropriate solutions is likely to be a slow

process, require a lot of practice, and therefore also take place in everyday life situations (in vivo practice). The Fast Track study showed that a multiyear preventive intervention offered at schools, including the promotion of children's social-cognitive skills, children's social skills, and parenting skills, among others, resulted in a decrease in antisocial behavior. This reduction was mediated by its impact on three social-cognitive processes: reducing hostile-attribution biases, increasing the generation of socially competent responses to social problems, and devaluing aggression (**Dodge et al., 2013**). This study demonstrates that increasing children's generation of appropriate responses to social problems is not only feasible but is also a mechanism of change and, as such, constitutes an important aspect of cognitive-behavioral-oriented treatment approaches.

2.0 Review of literature:

Nowadays, it is assumed that cognition and emotion are two complementary aspects of the psyche, and that it is difficult to separate their influence in the performance of the activities of everyday life. **Salovey and Mayer, (1990)** developed the idea of emotional intelligence. They conceived emotional intelligence as the capacity to combine intellectual capacity with emotional maturity. It provides solutions to several issues one faces in modern society, including those arising in the workplace, the classroom, and the healthcare system at large. This theory is believed to govern a variety of personal traits at the individual level, including parenting style, ego strength, choice of role model, emotional expression, artistic appreciation, social problem solving, leadership, and spirituality (**Mayer & Salovey, 1995**). **Mayer and Salovey, (1997)** defined emotional intelligence as the ability to identify emotions, use emotions to enhance one's thinking, make sense of one's emotions, and control one's emotions to further one's own development. Another definition of emotional intelligence is the skill of assisting others in doing the same with their own feelings. Emotional intelligence, as defined by **Singh (2003)**, is the ability to identify and appropriately address a wide variety of emotional cues generated by one's own internal states and external circumstances. It is possible that certain emotional reactions and emotional memories can be formed without any active cognitive involvement on the part of the individual (**Goleman, 1995**). One of the hallmarks of emotional intelligence is an individual's facility with self-awareness and emotion regulation. Teenagers' emotional intelligence is significantly related to the amount of pressure they feel to succeed in school (**Rizwan, 2017**). A lack of emotional regulation and the inability to control one's emotions are major contributors to depression (**Downey, L.A., et al., 2008**). Emotional intelligence has become increasingly important in the field of educational research, for which many studies were conducted in India and other countries. **Nwadinigwe and Azuka-Obieke (2012)** found that there is a connection between a student's level of emotional intelligence and his or her success in high school. **Sangtam and Talawar (2013)** too found that a student's emotional maturity correlates with his or her academic success in secondary school. **Das and Ghosh (2014)** found no statistically significant difference between rural and urban secondary school teenagers' emotional maturity or academic success. However, **Puar (2014)** found that high school teenagers' emotional maturity did not correlate with their performance in the classroom.

Also, according to **Mallick., et al., (2014)**, high school teenagers' emotional maturity levels are highly variable and emotional growth differed significantly between males and females. Those who are emotionally intelligent are more likely to be successful in life, while those who are not can find themselves worrying more than they would like. Researchers found a significant gender disparity in emotional maturity when comparing male and female high school teenagers. There is no difference between males and females in terms of emotional stability; however, boys demonstrate higher emotional growth than girls do (**B. Kumar, 2019**). Knowing how emotionally intelligent teens are is crucial because of the correlation between emotional development and interpersonal skills (**Sunil Kumar, 2014**). According to **Wilding & Milne, (2013)** emotional acuity can be improved with the use of cognitive behavior therapy (CBT) so that people can rethink their mental frameworks (their attitudes, assumptions, and beliefs) and discard those parts that are harmful. **Atefvahid's (2018)** research provides support for these views by showing that CBT can improve emotional intelligence and coping skills. According to **Khon (2014)**, using a problem-solving strategy in counseling can improve people's emotional intelligence. He suggested that future researchers look into combining CBT with problem-solving approaches and character-based treatment, despite the fact that existing studies show that these two components are effective on their own. Role-playing could aid in teenagers' character development. **Young (2013)** argues that role play can be used to reinforce desired actions. Counselors, he says, can employ role play to help clients overcome their anxiety and learn to interact with others. The research conducted by **Heyward in 2010** lends credence to the premise that using role-playing tactics in the classroom might increase learning through emotional investment. His findings suggest that using a role-playing approach can help teenagers give life to their fictional characters, which in turn can boost their learning through emotional investment. **Paninggar et al., (2014)** came to similar conclusions when they discovered that role play can raise teenagers' emotional intelligence when applied in a therapeutic setting. **Pepriyanti et al. (2018)** also used role-playing to aid teenagers in learning the material. They found that using role-playing to teach emotional quotient worked quite well.

This research builds on previous work to improve teenagers' emotional intelligence using cognitive behavioral therapy (CBT) group sessions, problem-solving exercises, and role-playing activities. Because they provided substantial chances to modify emotions and behavior, particularly through changing attitudes, these tactics were effective in developing teenagers' emotional intelligence.

3.0 Research methodology

3.1 Research question: Does CBT significantly affect emotional intelligence in teenagers in Dehradun?

3.2 Hypothesis:

1. There will be a significant improvement in the level of emotional intelligence in teenagers through CBT.
2. There will be a significant improvement in the level of emotional intelligence in male teenagers through CBT.
3. There will be a significant improvement in the level of emotional intelligence in female teenagers through CBT.

3.3 Samples and Sampling Techniques

The convenient method selected 120 teenagers, including 60 male and 60 female teenagers studying in CBSE affiliated schools in Dehradun. A total of 20 teenagers were eliminated due to medical and preexisting psychological treatment. A total of 10 male and 10 female teenagers were allocated to the waiting list, and 40 male and 40 female teenagers were given CBT. Four groups were formed by random selection, including 20 teenagers in each group, to provide group-based CBT. A total of 3 male and 5 female teenagers dropped therapy at the mid-way point. Thus, a total of 37 male and 35 female teenagers have completed CBT therapy. The research was approved by the ethical review board of the university.

3.4 Plan of CBT: A total of 15 sessions of CBT were provided. After each session, a 5-days break was observed. For this time break, specific tasks were given. This included journaling and noting down their emotions and reactions as per current situations. Each session lasted for two hours.

3.5 Tools and assessment: Emotional Intelligence Scale (EIS) developed by S. K. Mangal and Shubhra Mangal (2012). The Emotional Intelligence Inventory was designed for 16+ year old high school, college, and university teenagers to measure their emotional intelligence. A t-test was applied for statistical analysis.

4.0 Result and discussion

4.1 Analysis of the Scores Obtained for the Management of Emotional Intelligence Through CBT:

The initial level of emotional intelligence of male teenagers before CBT was 121.84 (below average category), which increased to 138.5 (average level) after 3 sessions of CBT, and to 158.47 (above average level) after 6 sessions with an increase of 13.63% and 30.06% respectively. After 9 sessions, it increased to 172.3 with an increase of 41.42%. After the completion of 12 sessions, it had increased to 178.4 (high level of emotional intelligence level), and to 180.23 (upper level of high category) after 15 sessions with an increase of 46.42% and 47.27%, respectively as compared to initial mean score (table 1).

Initial mean score of emotional intelligence in female teenagers was 123.21 (below average), which increased to 140.2 (average level) after 3 sessions, and to 163.47 (above average level) after 6 sessions with an increase of 13.79% and 32.68% respectively. After 9 sessions the level of

emotional intelligence increased to 175.9 (High level) with an increase of 42.76%. After the 12th session, the mean score increased to 180.69 (high level) and to 182 (high level) after the 15th session, with an increase of 46.65% and 47.72%, respectively as compared to initial mean.

Major changes were observed after 3 and 6 sessions. But from session 7 to session 15, it increased within different levels of the high category of emotional intelligence. From session 1 to 9, very sharp improvements were observed, but from the 9th to the 15th session, very slow improvements were observed. When data was analysis for male and female teenagers was compared, it was found that female teenagers achieved similar improvement as male teenagers.

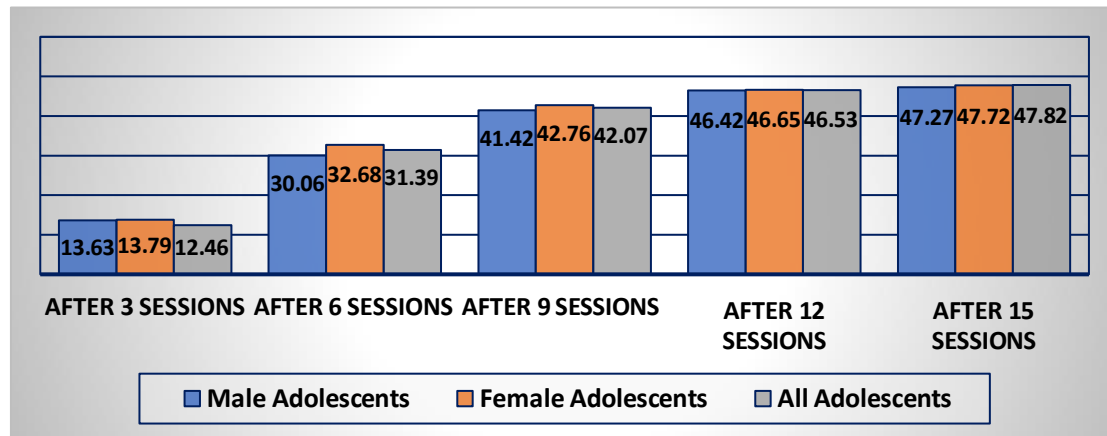
For overall scores of all teenagers, the initial score was 122.51 which is below the average level of emotional intelligence It increased to 137.78 (the average level) after 3 sessions and to 160.97 (above the average level) after 6 sessions with an increase of 12.46% and 31.39% respectively. After the completion of the ninth session, the level of emotional intelligence entered the category of high level with an overall increase of 42.07%, but after the 12th session, very slow improvements were obtained with an increase of 46.53% and 47.82% after 12th and 15th sessions respectively. To sum up, CBT was found to be highly effective in improving emotional intelligence in teenagers (figure 1).

Table: 1 Emotional Intelligence Scores after CBT

Teenager s	Emotional Intelligence Pre- CBT Scores			Emotional Intelligence Post CBT Score (Mean) & (% Decrease)				
	Tota l N	EI Score s	SD	After 3 Sessions	After 6 Sessions	After 9 Sessions	After 12 Sessions	After 15 Sessions
Male	37	121.84	4.2329	138.5 (+13.63 %)	158.47 (+30.06 %)	172.3 (+41.42 %)	178.4 (+46.42 %)	180.23 (+47.27 %)
Female	35	123.21	4.1471	140.2 (+13.79 %)	163.47 (+32.68 %)	175.9 (+42.76 %)	180.69 (+46.65 %)	182 (+47.72 %)
Total	72	122.51	4.1900	137.78 (+12.46 %)	160.97 (+31.39 %)	174.05 (+42.07 %)	179.51 (+46.53 %)	181.09 (+47.82 %)
Level Of Emotional Intelligen ce		Below average		Average	Above average	High	High	High

EI: Emotional Intelligence

Figure:1 Percentage Increase in Emotional Intelligence Scores of Teenagers After CBT



4.2 When data was analyzed to find out if there was a significant difference in the improvement of emotional intelligence levels of teenagers through CBT, the following observations were made:

Table 2: t-values for emotional intelligence Scores of Teenagers After CBT

CBT Session Interval	Mean (N =72)	SD	t-Value*	
After 0 Session	122.51	4.1900	22.5688	
After 3 Session	137.58	3.8140	P .0001	39.7361
After 6 Session	160.97	3.2250	25.5113	P .0001
After 9 Session	174.05	2.9200	P .0001	12.1659
After 12 Session	179.51	2.4445	4.2075	P .0001
After 15 Session	181.09	2.0439	P .0001	

* .05 level of confidence

At the start, pre CBT the emotional intelligence score was 122.51, which is extremely low. After 3 sessions, it increased to 137.58 with a t-value of 22.5688. This t-value is highly significant at 95% level of confidence. For the 3rd to 6th sessions, the calculated t-value was 39.7361, which talks about extremely significant improvement significant at 95% level of confidence. For the 6th to 9th session, calculated t-value was 25.5113; for 9th to 12th session calculated t-value was 12.1659. These t-values were again found to be extremely significant at 95% level of confidence, and for the 12th to 15th sessions, the calculated t-value was 4.2075, which is found to be extremely significant at 95% level of confidence. Hence, the first hypothesis is accepted, and it is concluded that there is significant improvement in the emotional intelligence in teenagers after CBT (Table 2).

4.3 When data was analyzed to find out significant difference in the improvement of emotional intelligence level of male teenagers through CBT, following observations were obtained:

In the start, the pre CBT score of emotional intelligence score was 121.84, which is extremely low. After 3 sessions, it increased to 138.5 with a t-value of 17.7545. This t-value is highly significant at 95% level of confidence. For the 3rd to 6th sessions, the calculated t-value was 23.9319. For the 6th to 9th session, calculated t-value was 18.8471; for 9th to 12th session calculated t-value was 8.8331. These t-values were found to be extremely significant at 95% level of confidence., and for 12th to 15th sessions, the calculated t-value as 8.5911, which is found to be extremely significant at 95% level of confidence. So, the second hypothesis is accepted, and it is concluded that there is significant improvement in the emotional intelligence in male teenagers after CBT (Table 4).

Table 4: t-values for emotional intelligence Scores of Male Teenagers After CBT Sessions

CBT Session Interval	Mean (N =37)	SD	t-Value*	
After 0 Session	121.84	4.2329	17.7545	
After 3 Session	138.5	3.8290	P .0001	23.9319
After 6 Session	158.47	3.3320	18.8471	P .0001
After 9 Session	172.30	2.9700	P .0001	8.8331
After 12 Session	178.40	2.5629	8.5911	P .0001
After 15 Session	183.23	2.1200	P .0001	

* .05 level of confidence

4.4 When data was analyzed to find out if there was a significant difference in the improvement of emotional intelligence levels of female teenagers through CBT, the following observations were made:

At the start, the emotional intelligence score was 123.21, which is extremely low. After 3 sessions, it increased to 140.20 with a t-value of 17.8720. This t-value is highly significant at 95% level of confidence. For the 3rd to 6th sessions, the calculated t-value was 27.3113: for 6th to 9th session, calculated t-value was 16.7768; for 9th to 12th session calculated t-value was 7.6709. These t-values were found to be extremely significant at 95% level of confidence. For the 12th to 15th sessions, the calculated t-value as 2.5438, which is found to be extremely significant at 95% level of confidence. Hence, the third hypothesis is accepted, and it is concluded that there is significant improvement in the emotional intelligence of female teenagers after CBT (Table 4).

Table 4: t-values for EI Scores of Female Teenagers After CBT Sessions

CBT Session Interval	Mean (N =35)	SD	t-Value*	
After 0 Session	123.21	4.1471	17.8720	27.3113
After 3 Session	140.20	3.7790	P .0001	
After 6 Session	163.47	3.3130	16.7768	P .0001
After 9 Session	175.90	2.8700	P .0001	7.6709
After 12 Session	180.69	2.3260	2.5438	P .0001
After 15 Session	182	1.9677	P .0001	

* .05 level of significance

5.0 Discussion

The main objective of this study was to explore the effect of CBT on emotional intelligence levels in males and female teenagers of Dehradun. The result inferred that the use of CBT definitely led to an improvement in the levels of emotional intelligence of the participants.

Concerning the effectiveness of CBT on improvement in the emotional intelligence level. It should be stated that CBT is the first option for addressing and working towards emotional intelligence and has been considered very effective. Indeed, CBT can help teenagers to create new thinking networks and adapt behaviors which can challenge maladaptive networks and memories. CBT benefits from the concepts of relaxation and cognitive restructuring. By cognitive restructuring, teenagers can learn how to challenge the truth of anxiety-producing thoughts through considering some pieces of evidence against those thoughts. Moreover, relaxation exercises decrease muscle tension, heart rate, and breathing rate.

6.0 Conclusion: The study observed that following CBT, a significant improvement is observed in the emotional intelligence levels in teenagers after 15 sessions. The results were consistent across various studies, with similar findings in male and female teenagers. CBT showed a significant improvement in the emotional intelligence scores in male and female teenagers after 15 sessions. Overall, CBT was found effective on teenagers' emotional intelligence management.

7.0 Summary

The objective of the study was to measure the emotional intelligence of teenagers enrolled in schools in Dehradun city and examine the effectiveness of CBT on emotional intelligence. S. K. and Shubhra Mangal's emotional intelligence scale was employed for the investigation. Eighty teenagers in all were chosen for the study (pre-posttest), and CBT was utilized to control the emotional intelligence scores. To identify a significant difference, the t-test was used. The results of the study showed that after 15 sessions of CBT, teenagers' emotional intelligence levels of teenagers were improved significantly.

8.0 EDUCATIONAL IMPLICATIONS

This research is a diagnostic study with the goal of raising teenagers' emotional intelligence levels in order to enhance both their mental and physical health. Both public and private educational institutions have an obligation to evaluate the circumstances and offer the appropriate counselling. Appropriate adjustments to the educational environment can be made by keeping an eye on the emotional intelligence level.

9.0 LIMITATIONS

Convenience sampling was used for the selection of participants of this study. Therefore, generalizability of the results to the statistical population is limited and should be made with caution.

Study is limited to 80 teenagers studying in private and government schools of CBSE board located in Dehradun city. Study focus is only regarding emotional intelligence while some factors affecting mental health were not considered. These findings must be considered in light of several limitations. First, the study used a naturalistic design that did not include a waitlist or control comparison group, thereby limiting the conclusions that can be drawn. Second, there were limited inclusion and exclusion criteria applied. While the intention was to represent real-world practice, confounding variables (e.g., pharmacotherapy, additional psychological services outside of the IBH model) could be present that could account for observed tool.

10.0 Suggestions

Future research should be able to replicate these findings in a larger sample, in order to generalize it to the large population or specific population, such as a gifted student. In addition, future studies should be able to rely on these results to examine the implications for well-being, social behavior and interpersonal relations in work or educational settings.

11.0 Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

12.0 Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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