EFFECT OF COGNITIVE THERAPY PROGRAM ON INCREASING PERSONAL INTELLIGENCE

Abstract: The Personal intelligence is one of the multiple intelligences concerned with individuals` internal characteristics. It plays a major role in understanding of oneself in all one`s aspects being aware of one`s abilities and acting accordingly. personal intelligence also reveals the extent of individual`s honesty with themselves and enhances their understanding of their emotions, intentions, and goals The cognitive therapy method developed by Beck suggests that individuals are subject to negative concepts and automatic thoughts that cause negative feelings about the self. The therapeutic method is based on the cognitive model, which states that thoughts, feelings and behaviors are paramount, and that individuals can overcome difficulties and achieve goals by identifying and changing their patterns of thinking. cognitive distortions result from inaccurate thoughts, problem behaviors, and painful emotional responses. In cognitive therapy individuals work in collaboration with the attending physician to develop the skills to test and modify beliefs, identify cognitive distortions, improve communication with others, and change behaviors. This study implemented a cognitive therapy program to develop personal intelligence, which showed his indirect effect on the impulsivity. A sample consisted of 26 students from a science and humanities college department in Rumah in Kingdom of Saudi Arabia. The subjects personal intelligence and impulsivity were measured before and after implementation of the program for the experimental group, The results showed that the program was effective improving personal intelligence and that impulsivity decreased with increases in personal intelligence

Keywords: Reflection, impulsivity, intelligence personal, cognitive therapy

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INTRODUCTION

Personal intelligence is among the multiple intelligences that are concerned with individuals' internal characteristics. It plays a major role in self-understanding, and it enables an individual to act accordingly. In various life situations, individuals can use this form of intelligence to direct their feelings, ideas, and needs in a positive developmental direction, according to the unique strengths and weaknesses of their personality, and based on clear, conscious knowledge, and sincere analysis of their inner feelings and motivations. They can also accurately identify their desires and ambitions, increasing their awareness of their own responsibility for their lives, and thus, direct their behavior in a positive way. The cognitive therapy method developed by Beck suggests that individuals are subject to negative concepts and automatic thoughts that cause negative feelings about the self. The therapeutic method is based on the cognitive model, which states that thoughts, feelings, and behaviors are paramount, and that individuals can overcome difficulties and achieve goals by identifying and changing their patterns of thinking. Cognitive distortions result from inaccurate thoughts, problematic behaviors, and painful emotional responses. In cognitive therapy, individuals work in collaboration with the attending physician to develop the skills to test and modify beliefs, identify cognitive distortions, improve communication with others, and change behaviors.

STUDY PROBLEM

The theory of multiple intelligences, as introduced by Gardner, originally posited linguistic, logical, mathematical, spatial, musical, physical, personal, and social intelligences. In 1999,the concept of natural intelligence was added, and emotional intelligence has been suggested as a future addition. Generally,*intelligence* is an ability to solve the problemsthat oneis exposedto. One such problemis how to interact with othersand avoid making potentially regrettable decisions without forethought, which is known as impulsivity.

The research problem of this study can be summarized intotwo questions. First, does increasing personal intelligence reduce impulsivity? Second, does cognitive therapy increase personal intelligence?

STUDY HYPOTHESES

H1: Before implementation of thecognitive therapy program, there will be no statistically significant differences between the experimental and control group in terms of personal intelligence scores.

H2: Before implementation of the cognitive therapy program, there will be no statistically significant differences between the experimental and control group in terms of impulsivity scores.

H3:In the experimental group, there will be statistically significant differences interms of mean personal intelligence scores before and after implementation of the cognitive therapy program.

H4:In the experimental group, there will be statistically significant differences in terms of mean impulsivity scores before and after implementation of the cognitive therapy program.

H5:After implementation of the cognitive therapy program, there will be statistically significant differences in the experimental and control groupsin terms of mean personal intelligence scores.

H6: After implementation ofthe cognitive therapy program, there will be statistically significant differences between the experimental and control group in terms ofmean impulsivity scores.

H7:In the experimental group, there will be no statistically significant differences between mean personal intelligence scores immediately after implementationof the cognitive therapy program, and after the follow-up period.

H8:In the experimental group, there will be no statistically significant differences between mean impulsivityscores immediately afterimplementation of the cognitive therapy program, and after the follow-upperiod.

IMPORTANCE OF THE STUDY

In the latter half of the 20th century, contemporary psychology attractedan increasing generalinterest in information processing and particularly in cognitive (reflection - impulsive)

methods, asan individual is capable of handling, processing, storing, and retrieving information.A variety of cognitive processesoccur within the mind before an answer is reached(Ghoneim, 2002). Gardner's book onmultiple intelligences first calledinto question the idea that an individual's abilities could be observed fullywith a single measure of intelligence. (Gardner, 1999). University students tend tofeel a sense of impulsivity in various circumstances,andacting on this impulsivity may lead them to takeactions they later regret. Thus,it is important to study ways to mitigateimpulsivityanddevelop reflectivity, such as using a cognitivetherapy programto develop personal intelligence, as is reportedin the present study.

THEORETICAL BACKGROUND

COGNITIVE THERAPY

Cognitive therapy is a form of psychotherapy originally developed by Aron Beck. It comprisesa set of processes focused on guiding ideas and cognitive processes, both verbal and conceptual, and on the individuals' assumptions that define those processes (Leahy, 2000)within the theory of cognitive therapy.

Beck refers to a set of related concepts:

*Guided discovery*is a method used by the therapist to regulate how the subject identifies thought processes and negative beliefs.The nature, meaning,and interpretation of immediate thoughts are examined to identify and correct false assumptions and beliefs (Wells, 1997).

*The cognitive triangle*suggests that negative attitudes or views are directed toward three main elements—the self, the world, and the future—and that by default,all a subject's problems concern one or more of these elements (Bellack, Hersen, &Kazdin, 1982).

Schemas are mental structures that guide the individual in processing information, and that help people understand and organize their life experiences. Beck believed that they generate an individual's various cognitive distortions, and considered that theyplay a role in either increasing or decreasing anindividual'sownfusion in different situations. Schemas begin to form in the early stages of life, and are established in the middle years of childhood (Bellacket al., 1982).A previous clinical study in this area by Al-Faqih (1995),aimed to identify the effectiveness of the cognitive method and the method of hope in hospital treatment of addiction,measuring themost important aspects of the therapeutic effect and the improvement ofaddictive symptoms. The study's sample consisted of two cases at Al-Amal Hospital in Jeddah. Cognitive processes were found to have played an important role in the development of addictive behaviors, and cognitive psychotherapeutic methods had agreat impact on reducing addictive symptoms and motivations.Psychotherapeutic methods,with a particular focus on the cognitive method,result in greater improvement than one method of treatment only,asdemonstrated by the steady improvement observed when the cognitive method was implemented following other methods.Another study evaluated the effectiveness of cognitive therapy and participation in activitiesto reduce depression among patients in elderly care(Al- Essa,2007). Study participants were identified through application of Beck's depressioninventory, with 10 individuals each in thefirst experimental group (cognitive therapy),second experimental group (participation in activities), and the control group. The results indicated statistically significant differences between the two experimental groups, and the control group.In favor of the experimental groups, no significant differences were found between the two experimental groups: cognitive therapy and participation in activities.

PERSONAL INTELLIGENCE

Researchers have defined personal intelligence in various ways. Some identify it as:

An internal ability that enables individuals to form an accurate model of themselves, and to use that model to work effectively in life (Goleman, 1995).

Others describe it as the ability to properly perceive oneself to be aware of one's inner feelings, values, and beliefs as manifested in one's thinking, motivations, and weaknesses, and use information to directone's thinking when making decisions (Denig, 2004,p. 18).

Still, others citeit as the ability to form an accurate self-image (knowledge of one'sown strengths and weaknesses), understand one's internal psychological state, intentions, motivations, moods, and desires,and practice self-discipline, self-understanding,and self-esteem (Armstrong, 2006).

Finally,the concept can refer to an individuals'ability to deepen their self-awareness and understand theirpersonal characteristics and the limits of their abilities as well as how to interact with various circumstances, what to avoid, and what remedial actions to take (Hussein,2005).

Mohammed (2007), Sheikh (2011), and Mohamed(2011)concur in calling this form of *intelligence,* as *internal or individual*, as it requires time to think and reflectan individual's attitudes towardparticipation in withdrawal from peer groupsas determined by their mental abilities.Other scholars(Afaneh &Khazindar, 2007; Al-Kashefy, 2011)have provided behavioralindicators ofpersonal intelligence, namely:good individual work performance and a tendency to take on individual projects; self-confidence and a willingness to face challenges, with patience in adversity;a realistic perception of strengths and weaknesses;a commitment to ethical and religious principles and values,and awareness of feelings and subjectivity;an ability to identify and pursue personal needs;a preference for games that require focus;ability to remember situations and events with a major impact on the individual;and a tendency to ask imaginative and reflective questions. Philosophers, psychiatrists, scientists, and sages have all been identified as examples of people who exhibit high personal intelligence.

People with personal intelligence are skilled at personal decision-making, have a good awareness of their goals, and can thus, adjust and correct their behavior accordingly,andneed not depend too much on others. Further, theyare reflective and not hasty to express opinions, are conscious of their inner feelings, and show self-awareness in their social relationships (Al-Makashfi, 2011).Phrases that describe individuals with this type of intelligence include, "I always think about my future and my ambitions," "My hobbies are my own," "I would rather stay alone," and"I am thinking of having projects" (Mahmoud, 2006).Individuals with a high level of personal intelligence are self-reflective; perceive meta-cognition, such as awareness,self-monitoring, and presentation;enjoy self-discovery, organization and understand the personal strengths and weaknesses of the self (Amer, 2008).

Mohammed (2011) explainsstrategies for developing this form of intelligence. Taking a "minute to meditate" provides learners with time for reflection during scientific activities to be completed without interruption. "Personal links" link the knowledge to the learners' daily experiences in various life situations.In a "time of choice,"the learners' teacher presentstwo tasks and allowsthem the opportunity to perform them according to their personal potential. "Emotional moments" ensure that activities involve varying situations and opinions associated with different feelings, such as anger and humor. "Setting goals" is a strategy by which the teacher encourages learners to determine their own goals, both short- and long-term.A study by Demerdash (2006) examined the effectiveness of an educational program based on the theory of multiple intelligences inincreasing academic achievement. The results indicated statistically significant differences at the level of$P<.01$ between the mean scores of the experimental and control groups on the achievement test in favor of the experimental group. A study by Ibrahim (2010) aimed to determine the effect of personal intelligence on emotional and social intelligence,according to Fouad Abu Hatab's perception.Another study by Abu Hajar and Turki (2013) soughtto identify the level of multiple intelligences among a sample of gifted and ordinary students, according to the variables of gender and academic achievement. The most frequently identified type of intelligence among gifted students was logical intelligence, followed by personal intelligence, and social intelligence.The most frequent among the ordinary students was social intelligence,followed by motor intelligence, personal intelligence, and finally, logical intelligence,with gender differences in favor of ordinary male students, except for personal and social intelligence.

IMPULSIVITY

Impulsivity is an individual's tendency to respond quickly when exposed to risk.Impulsive responses are incorrect because they are taken while failing to fully consider alternative resolutions to the situation. In contrast, individuals who are less impulsive tend to carefully examine the data in a situation, consider the alternatives, and check their decision before responding(Al-Ahmad, 2001; Al-Faramawi, 1994; Ghoneim, 2002; Al Sharqawi, 1989).Impulsivity is a factor that prevents an individual from achieving basic functionality in life (DeYoung, 2011). In some individuals with clinical diagnoses such as schizophrenia, severe impulses are impossible to resist because they reduce a state of excess emotional tension. This excess can arise from an overabundance of sexual or aggressive impulses, or be due to the presence of ego defenses.However, individuals who are impulsive can perform well in other areas (Okasha, 1997).Dickman (1990) acknowledged two types of impulsiveness: functional and non-functional. He suggested that in certain circumstancesrequiring quick action, speech, or decision-making, impulsivity can be a functional trait.

Impulsivity is aresult of impaired function and abnormalities in cognitive ability and processes. A considerable amount ofneuronal signals may appear randomly at the same time, leading to difficulty in attendingto these signals and perceptual clues during information processing. Further, neurons transmit muscular commands that express the impulsivity(Schmidt, 2003). In a previous study,Abdul Hady and Abu Jedy (2014)aimed to identify correlations between impulsivity and self-affirmation among a sample of 255 students of the Arab Open University, measuring both self-affirmation and three areas of impulsivity (motor impulses,lack of planning, and cognitive impulses). They found an inverse relationship between self-affirmation and impulsivity, cognitive impulses were strongest and motor impulses were weakest, and the study sample demonstrated an average level of self-affirmation.Ibrahim and Hilal (2013)aimed to identify risk behavior and impulsivity in a sample of 225 adolescents from different secondary school educational environments (general, technical, and religious).The results indicated a positive correlation between risk behavior and impulsivity.

METHODS AND PROCEDURES

STUDY DESIGN

The study adopted a pre-post experimental designwith two groups: control and experimental. Both groups completed questionnaire scales before the intervention was performed, and again after the program was implemented,the questionnaires were completed by the experimental group only to identify any difference.

PARTICIPANTS

Initially, scales were used to measure personal intelligence and impulsivity in 90 female students from afaculty of science and humanities in Rumah. Based on the results, the students with the lowest scores in personal intelligence and the highest scores in impulsivity were selected for participation in the study. All were in the third level of specialization in Islamic studies,with an age range of 19 to 24 years.Participants were divided into two groups:experimental (13 participants)and control(13 participants). The control group did not complete any therapy program.

TOOLS

PERSONAL INTELLIGENCE SCALE

The personal intelligence scale initially consisted of 25 phrases compiled and written based on the theoretical framework of previous studies, and a review of a considerable number of existing measures of personal intelligence, including the personal intelligence scale (Mohamed, 2005).

Table 1. Factor loadings of personal intelligence scale phrases

Phrase Factor loadings			Phrase Factor loadings		
1		2	1		2
1	.354	.067	14	.425	.374
2	.485	.082	15	.558	.237
3	.008	.399	16	.213	.322
4	-.022	.579	17	.125	.537
5	.247	-.163	18	.663	.251
6	.721	.005	19	.773	.086
7	.720	.245	20	.449	-.082
8	.428	.159	21	.654	.173
9	.241	.457	22	.575	.349
10	.269	.581	23	.527	.171
11	.463	.270	24	.485	-.219
12 13	.109 .605	.526 .030	25	-.212	.503

The validity of the scale was confirmed through factor analysis with varimax rotation. The analysis resulted in two factors after recycling using the Guilford test, which accepts factors exceeding .3.In Table 1, for Factor 1, personal intelligence in behavior,16 of the 25 phrases satisfied the minimum loading value (phrases 1, 2, 6-8, 11, 13-15, and 18-24).Loadings ranged from.354 for phrase 1 to.773 for phrase19.For Factor 2, personal intelligence in thinking, 9 of the total phrases satisfied the saturation value (phrases 3, 4, 6-8, 12, 16, 17, and 25). Loadings ranged from.322 for phrase 16 to.581 for phrase 10.One of the phrases was deleted for incompatibility with the scale factors. The final scale, thus, contained a total of 24 phrases, distributed over two dimensions: personal intelligence in behavior and personal intelligence in thinking.

Each phrase on the scale is scored from 1 to 3 (1=*disagree*, 2= *maybe*, 3=*agree*), with total scores ranging from 24 to 72;scores from24 to 40 are considered to indicate low personal intelligence; scores from 41 to 56 are considered to indicate average personal intelligence; and scores from 57 to 72 are considered to indicate high personal intelligence. The reliability of the scale was calculated by re-applying it to a sample of 90 female students from a faculty of science and humanities in Rumah, at an interval of 15 days. Spearman's correlation coefficient between the two applications was 0.87. Pearson's correlation coefficient was 0.94, indicating a high level of reliability.

IMPULSIVITY SCALE

The impulsivity scale consisted of 25 phrases, compiled based on the theoretical framework of previous studies (Askar, 2016; Eysenck,1984).

Table 2. Factor loadings of impulsivity scale phrases

Phrase	Factors		Phrase	Factors		Phrase	Factors	
	1 or 2			1 or 2			1 or 2	
1	.714	-.256	10	.709	.197	19	.660	.208
2	.585	.187	11	.618	.034	20	.113	-.480
3	.012	.559	12	.560	.045	21	.459	.002
4	.567	-.092	13	-.073	.530	22	.551	-.201
5	.581	.035	14	-.050	.588	23	.666	-.191
6	.676	-.077	15	.173	.522	24	.478	-.160
7	.581	-.273	16	.194	-.533	25	.560	-.010
8	.583	-.044	17	.608	.103			
9	.607	-.009	18	-.122	-.372			

The validity of the scale was confirmed based on factor analysis, with basic components and recycling of factors by varimax rotation (Table 2).For Factor 1, impulsive behavior, 18 of the total phrases satisfied the minimum loading requirement(phrases 1, 2, 4, 5-12, 17, 19, and 21-25).Loadings range from.445 for phrase 1 to.714 for phrase28.For factor 2,impulsive thinking,4 of the total phrases (phrases 3, 13, 14, and 15) achieved the minimum loading value, with loadings ranging from.588 for phrase 14 to .522 for phrase 3.Five phrases were deleted due to

incompatibility with the scale. Thus, the final scale contained a total of 20 phrases distributed over two dimensions: impulsive behavior and impulsive thinking.

Each phrase on the scale is scored from 1 to 3 (1= *disagree*, 2= *maybe*, 3= *agree*), with inverse scoring for phrases 3,13,14, and 15.The total scores range from 20 to 60, with scores from20 to 33 indicating low impulsivity, from 34 to 47 indicating average impulsivity, and from 48 to 60indicating high impulsivity.

The reliability of the scale was calculated by re-applying it to a sample of 90 female students of a faculty of science and humanities in Rumah, at an interval of 15 days. Pearson's correlation coefficient was 0.92, indicating a high level of reliability.

PERSONAL INTELLIGENCE DEVELOPMENT PROGRAM

In the personal intelligence development program, cognitive guidance techniques were implemented over a total of 12 sessions to modify participant thinking patterns, develop their personal intelligence, and study the impact on impulsivity. Each session lasted for 45 to 60 minutes, with one session per week held over the course of three months. A summary of each program session is provided in Table 3.

Table 3. Summary of sessions of the cognitive therapy program for developing personal intelligence.

Session	Aim	Technique	Content	Homework
1	Engagement	Engagement	Dating students and making each other's acquaintance.	What are you thinking now?
2	Meditation	Self - monitoring	Participants talk about the ideas that revolve in their minds.	Meditate How do you think about yourself?
3	Understand cognitive distortions	Fill in the blanks	The researcher recalls a situation of life and contemplates understanding it in a certain way.	Why did you understand the situation like you did?
4	Learn internal commands	Self-help	In many situations, a person may break down because of incompatibility between the events and how the individual speaks and gives instructions to themselves.	What do you tell yourself in difficult situations?
5	Modified life system	Change the rules	When we find our ideas inappropriate for the situation, this contributes to modification of ideas.	Do you have static laws in your life?
6	Gain information	Installation and construction	We should always strive to increase our information because it helps us to modify our ideas.Where should we get new information?	What kinds of books are you reading or are you looking for any information online?
7	Compare information	Cognitive reconstruction	When obtaining information, there may bethe impulse to reject what is incompatible.	What do you do if there is a conflict?
8	Identify objectives	Imagination	Before implementing our ideas, we can test against our goals and current actions, and check whether the feeling corresponds to the achievement of those goals. Before acting, imagine the situation as a whole.	What are your dreams for the future?

9	Problem solving	Confrontation	It is normal to face unexpected problems. Before entering any situation, anticipate problems that could occur and look for possible solutions to help deal with unexpected problems quickly.	How do you solve your problems?
10	Think about others' opinions	Central disengagement	Learn to discuss freely. When we think about a situation, understand how we think.	Are all people like you? How do you know?
11	Modify ideas according to the situation	Flexible thinking	Attitudes may be similar but never coincide. What happens today will not happen again tomorrow in the same way, so solutions to a problem will change depending on changes in the situation.	Describe two situations encountered in two different ways.
12	Wrap-up	Wrap-up	Through the previous sessions, we learned to think about what helps to achieve goals in the quickest most beneficial way, and what is meant by personal intelligence	Apply measures

RESULTS AND DISCUSSION

H1, which predicted that "there would be no statistically significant differences between the experimental and control group in terms of mean personal intelligence before implementation of the cognitive therapy program," was supported.

Table 4.ANOVA results for mean personal intelligence scores of the experimental and control groups before implementation of the cognitive therapy program

	Sum of squares	*Df*	Mean square	*F*	*P*
Between groups	832.417	10	83.242	0.136	.978
Within groups	612.5	1	612.5		
Total	1444.917	11			

As shown in Table 4, the critical *F*-value(4.1)is greater than the calculated *F*-value (0.136).Thus, the relationship is not significant, and the null hypothesis is accepted. There were no statistically significant differences between the experimental and control group in terms of mean personal intelligence scores before implementing the therapy program.

H2, which predicted that "there would be no statistically significant differences between the experimental and control group in terms of mean impulsivity before implementation of the cognitive therapy program," was supported.

Table 5. ANOVA results for mean impulsivity scores of the experimental and control groups before implementation of the cognitive therapy program

	Sum of squares	*Df*	Mean square	*F*	*P*
Between groups	827.192	9	91.910	0.656	.726
Within groups	420.5	3	140.167		
Total	1247.692	12			

As shown Table 5, the critical *F*-value (8.8) is greater than the calculated *F*-value (0.656). Thus, the relationship is not significant, and the null hypothesis is accepted. There were no significant differences between the experimental and control group in terms of mean impulsivity scores before implementing the therapy program.

H3,which predicted that "there would be statistically significant differences between the mean personal intelligence scores of the experimental group before and after implementation of the cognitive therapy program," was supported.

Table 6. ANOVA results for mean personal intelligence scores of the experimental group before and after implementation of the cognitive therapy program

	Sum of squares	*Df*	Mean square	*F*	*P*
Between groups	1260.5	8	157.562	22.332	.014
Within groups	21.167	3	7.056		
Total	1281.667	11			

As shown in Table 6, the critical *F*-value(4.1) is less than the calculated *F*-value (22.332).Thus, the relationship is significant, and the null hypothesis is rejected. There were statistically significant differences between the mean personal intelligence scores of the experimental group before and after implementing the therapy program.

H4,which stated that "there would be statistically significant differences between the mean impulsivity scores of the experimental group before and after implementation of the cognitive therapy," was supported.

Table 7. ANOVA results for mean impulsivity scores of the experimental group before and after implementation of the cognitive therapy program

	Sum of squares	*df*	Mean square	*F*	*P*
Between groups	1044.731	11	94.976	7.598	.276
Within groups	12.500	1	12.500		
Total	1057.31	12			

As shown Table 7,the critical *F*-value(4.8) is less than the calculated *F*-value (7.598).Thus, the relationship is significant, and the null hypothesis is rejected. There were statistically significant differences between the mean impulsivity scores of the experimental group before and after implementing the cognitive therapy program.

H5,which stated that "there would be statistically significant differences between the experimental and control group in terms of mean personal intelligence scores after implementation of the cognitive therapy program," was supported.

Table 8. ANOVA results for mean personal intelligence scores of the experimental and control groups after implementation of the cognitive therapy program

	Sum of squares	*df*	Mean square	*F*	*P*
Between groups	647.750	8	80.969	28.577	.009
Within groups	8.500	3	2.833		
Total	656.250	11			

As shown in Table 8, the critical *F*-value (4.1) is less than the calculated *F*-value (28.577).Thus, the relationship is significant, and the null hypothesis is rejected. There were statistically significant differences between the experimental and control group in terms of the mean personal intelligence scores after implementing the cognitive therapy program.

H6,which predicted that "there would be statistically significant differences between the experimental and control group in terms of mean impulsivity scores after implementation of the cognitive therapy program," was supported.

Table 9. ANOVA results for mean impulsivity scores of the experimental and control groups after implementation of the cognitive therapy program

	Sum of squares	*df*	Mean square	*F*	*P*
Between groups	1827.692	10	182.769	18.277	.053
Within groups	20	2	10		
Total	1847.692	12			

As shown in Table 9, the critical *F*-value (4.1) is less than the calculated *F*-value (18.277).Thus, the relationship is significant, and the null hypothesis is rejected. There were statistically significant differences between the experimental and control group in terms of mean impulsivity scores after implementing the cognitive therapy.

H7,which predicted that "there would be no statistically significant differences between the mean personal intelligence scores of the experimental group immediately after implementation of the cognitive therapy program and after the follow-up period," was supported.

Table 10. ANOVA results for mean personal intelligence scores of the experimental group immediately after implementation of the cognitive therapy program and after the follow-up period

	Sum of squares	*Df*	Mean square	*F*	*P*
Between groups	341.750	9	37.972	0.241	.947
Within groups	314.500	2	157.250		
Total	656.250	11			

As shown in Table 10, the critical *F*-value (4.3) is greater than the calculated *F*-value (0.241).Thus, the relationship is not significant, and the null hypothesis is accepted. There were no significant differences between the mean personal intelligence scores of the experimental group immediately after implementing the cognitive therapy program, and after the follow-up period.

H8,which predicted that "there would be no statistically significant differences between the mean impulsivity scores of the experimental group immediately after implementing the cognitive therapy program and after the follow-up period," was supported.

Table 11. ANOVA results for mean impulsivity scores of the experimental group immediately after implementation of the cognitive therapy program and after the follow-up period

	Sum of squares	*df*	Mean square	*F*	P
Between groups	1685.692	10	168.569	2.081	.368
Within groups	162	2	81		
Total	1847.692	12			

As shown in Table 11, the critical *F*-value (4.1) is greater than the calculated *F*-value (2.081).Thus, the relationship is not significant, and the null hypothesis accepted. There were no significant differences between the mean impulsivity scores of the experimental group immediately after implementing the cognitive therapy program, and after the follow-up period.The results of this study

reflect the cognitive method of reflectivity and impulsivity in terms of ways of thinking. Previous research, such as Hassanin (1994) who studied the divergence of some types of thinking with respect to the cognitive method of reflectivity and impulsivity, confirmed that the cognitive method differs from the motivation method. The study indicated a correlation between reflectivity and impulsivity, and an individual's method of abstract thinking. Similarly, Al-Omari (2007) aimed to study the reflectivity and impulsivity method, and its relationship to social responsibility among 329 students of the College of Education for Girls in Jeddah Province. The results indicated differences in reflectivity and impulsivity among the students in terms of age and social status. Mahmoud (2016) has demonstrated a relationship between moral intelligence and personal intelligence. The study aimed to construct a causal model of the relationships between wisdom and intelligence based on a sample of 232 female students of the Faculty of Education, Majmaah University in Saudi Arabia. The results indicated direct structural and causal effects of moral intelligence and its dimensions (justice, self-censorship, respect, conscience, empathy, and tolerance),and causal effects of personal and social intelligence in the dimensions of wisdom (emotional, meditative, and cognitive).

Another study (Al-Kayab, 2003) examined the psychological structure of objective intelligence, social intelligence, and personal intelligence, and their relationship with information processing, with respect to gender and academic specialization. The results, based on a study sample of 625 students from Ain Shams University, Faculty of Education ,indicated a negative correlation between the two personal intelligence dimensions—social and subjective personal intelligence—and deep information processing in both men and women in scientific disciplines, and a negative correlation between subjective personal intelligence and average information processing in both men and women in literary disciplines.

Personal intelligence is influenced by a considerable number of factors, in other words, it can be modified. This has been demonstrated by the use of cognitive therapy to develop personal intelligence, as in the attempt by Al-Faqih(1995) to modify the thinking patterns of heroin addicts in support of their addiction treatment. The study, which involved a sample of two cases from Al-Amal Hospital in Jeddah, indicated that cognitive processes play an important role in the development of addictive behaviors, and that cognitive therapy methods had a significant impact on improving thinking patterns in addicts.

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