



The Effect of Managing Cognitive Functions in Detecting Criminal Behavior among a Sample of Addicts

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STUDY SUMMARY: The effect of managing cognitive functions in detecting criminal behaviour among a sample of addicts. The study aimed to identify the effect of managing cognitive functions in detecting criminal behaviour among a sample of addicted users and non-users of drugs (heroin). 1.37 The criminal behaviour scale and the Wisconsin Card Sorting and Classification Test were applied to measure cognitive functions.

INTRODUCTION

The problem of addiction to nerve-affecting substances occupies a leading place among psychological, medical and social problems, and is considered one of the dangerous social phenomena that are sweeping the world and its danger lies in the fact that it spreads among young people, who represent a basic human force in society, especially since the individual is no longer addicted to one drug but to more than one drug. A real estate at the same time (Abdul Razzaq Jadoo Muhammad, 2010). And since the problem of drug abuse affects society in its security and economy, and affects all levels of life in the individual and society and in the present and future of each of them (Mustafa Soof, 12, 2002). Drugs can spread among most groups of society, as they spread among the illiterate and the educated, and between the poor and the rich, but there are no accurate figures indicating the prevalence rates of addiction because of the position of the law and society towards addicts, which makes them practice their addiction in secret (Ahmed, Akasha, 2006, 535).

Addiction to narcotic substances usually begins due to the pursuit of euphoria or relief of tension and pain, and then continues to use after that to avoid withdrawal symptoms that occur if the individual tries to refrain from using, so the behaviour of the addict takes a similar and continuous character with the goal of obtaining orgasm from drugs, poisoning the nervous system (Shahin Ruslan, 2015).

Amira Jaber Hashem (2015) indicated that drug abuse results in some forms of cognitive decline, such as memory impairment, difficulty remembering, and weakness in the body, incoherence of speech, lack of attention to health, red eyes, sweating and the emergence of some diseases related to addiction, a noticeable deterioration in the student's level of competence and a drop in his academic level, delays in attending lectures and frequent absences.

One third of drug users around the world are women, and that was the latest report issued by the United Nations in 2016. The number of drug users using injections reached about 3.8 million women. There is no doubt that this number is frightening if we know that this percentage represents about 0.11 of the Women around the world Undoubtedly, in the Arab world, we hear on a daily basis that there are a group of women who are arrested for trading these narcotics (Shahin Ruslan, 2015, p. 65).

THE STUDY PROBLEM

This study addresses the problem of heroin abuse and whether the cognitive functions of the brain are affected. Therefore, the researcher may clarify the relationship between abuse and the deterioration of cognitive functions and how to predict criminal behaviour. The statements of the Ministry of Social Solidarity indicated that the percentage of youth drug users in Egypt is more than 57% of the total drug users, and that most of the youth are between 15 to 25 years old, which is a strong indication of the rise of this phenomenon that deserves study.

The problem of the study emerges in the following questions:

- 1- How to explain and explain the differences in some cognitive functions between addicts who use and non-users of heroin?
- 2- How to analyse the differences in criminal behaviour between drug addicts and non-addicts of heroin?

Study Objectives: The current study aims to:



- 1- Recognizing the differences in some cognitive functions between drug addicts and non-addicts of heroin.
- 2- Detecting the differences in criminal behaviour between addicts who use and non-users of heroin.

Theoretical importance of the study: The current study aims to identify the effects of drug abuse on cognitive processes and criminal behaviour among addicts who abuse and not abuse heroin.

Applied importance of the study: What can be achieved by benefiting from its results in building programs that include the development of cognitive and behavioural functions among addicts who use and not abuse heroin.

TERMINOLOGY OF STUDY

Cognitive processes: includes mental processes, which include knowing how people think, how they perceive, remember and solve their problems, and how to direct their attention to one stimulus or stimuli without the other. Criminal behaviour: It is any behaviour that is anti-social and directed against its public interest, or is any form of violation of moral standards that are acceptable to a particular society and are punishable by law.

The researcher defines it procedurally by the degree that the study sample members obtain on the scale of criminal behaviour.

Heroin: harmful to the health of the nervous system, recreational drugs and those prescribed for medical reasons affect the nervous system, as the central nervous system is directly affected by drug abuse and affects cognition and concentration.

DAMAGE CAUSED BY YOUTH ADDICTION:

There is no doubt that there is a wide range of harms that occur to young people when they are exposed to drug addiction, and one of the most important of these harms is violence. One study indicated that one out of every 3 young people has violence as a result of drugs, and the percentage of young people who were exposed to addiction treatment reached between 40 to 70%. Certainly, all of these damages constitute a variety of damages to young people, and hinder them from carrying out the tasks of studying and studying properly. Studies carried out by mental health doctors and addiction treatment have found that young people are more susceptible to mental illnesses than women, as a result of their addiction to drugs, and perhaps this explains Many young people have been exposed to cases of severe depression, which leads to the idea of suicide, and indeed, the cases of young people who committed suicide after their addiction to drugs are greater than the percentage of women who used drugs, and some studies confirmed congenital malformations of the fetes as a result of the addiction of married young people to these narcotic substances before and during marriage.

In 2012, the excessive doses taken by young people led to the death of more than 15,000 young people in the United States of America alone. Certainly, there is a range of damages to young people as a result of their consumption of these drugs. It is known that young people are the foundation of society, especially in our eastern societies (Al-Amal Hospital). In Saudi Arabia, 2020, extracted from the net site

(<https://www.hopeeg.com/blog/show/Drugs-and-girls>).

Festinger points out that cognitive dissonance is only an expression of a conflict that occurs when the individual encounters anything that contradicts his beliefs and ideas, and this conflict can lead to a change in the individual's beliefs or provide an interpretation of them different from the subject of the conflict, in order to be consistent with these beliefs, Therefore, we may find that there is an inconsistency between what the individual thinks and what he behaves, and he also sees that the lack of harmony and harmony between the aspects of one's cognitive domain expresses the cognitive dissonance, which leads to a state of tension in the person, and then the individual is motivated to relieve this tension through His attempt to remove and get rid of this cognitive dissonance, it may be through the individual's tendency to distort reality represented by distorting some forms of criminal behaviour (in: Ahmed Mohamed, 2001, 69).

Also, Amina, Alizadeh and Rezaei (Amina, Alizadeh, & Rezaei 2012) conducted a study aimed at comparing addicts and normal adults in executive functions. The study sample consisted of 38 addicts who were selected from two addiction clinics in Tehran and from 38 normal volunteers. The application of the Wisconsin test to sort the cards, and the results indicated that there are statistically significant differences between the addicts and the normal ones, as the addicts showed weakness in the executive functions than the normal ones, through a lack of mental flexibility and concept formation.



Mati moto and Rossini (Matsumoto, & Rossini, 2013) conducted a study aimed at studying the effect of alertness, attention and mental flexibility in drug addicts; Where the research sample consisted of two groups, the experimental group consisted of 20 users, and the control group consisted of 20 participants who did not take any psychotropic substances.

The participants were evaluated by the Wisconsin Card Sorting Test and the Continuous Performance Test, where the experimental group showed low performance on the Wisconsin Card Sorting Test and on most items of the continuous performance test compared to the performance of the control group, which shows a deficit in mental flexibility, alertness and attention. Possible effects of drug addiction treatment.

Baba Zadeh & Fiesole, (2016) also conducted a study aimed at finding out the differences between addicts and normal people in executive cognitive functions. The normal sample consisted of 25 university students, and the addicts sample consisted of 25 drug users participating in addiction treatment camps in the city. Addable in the period from (2014-2015), and the study used the Wisconsin test for sorting cards, as well as the Strobo cooler test and Wexler's test for numbers. The ability to stop responding and weakness in switching and updating working memory, which led to a deterioration in their performance compared to the normal.

STUDY ASSIGNMENTS

- 1- There are statistically significant differences in some cognitive functions between drug addicts and non-addicts of heroin.
- 2- There are statistically significant differences in criminal behaviour between drug addicts and non-addicts of heroin.

Study Methodology: The current study relies on the descriptive, correlative approach, which is based on describing the phenomenon under study, as it fits with the study's objectives, which

It enables us to verify the hypotheses of the study as well as to verify the psychometric properties of the study scales used.

The study population: It is all the individuals who constitute the subject of the research problem (addicted youth in Dr. Ahmed Abu Al-As aim Hospital for Psychiatry and Addiction Treatment), which is all the elements related to the problem of the study, which the researcher seeks to generalize the results of the study to, and therefore it is difficult for the researcher to apply to all members of the community. It takes a long time and high financial capabilities, so the researcher resorted to choosing a partial group from the research community, and this group is called the research sample.

The study sample: The total sample consisted of 60 young people. The study sample was selected using the intentional non-random sampling method from Dr. Ahmed Abu Al-Azeem Hospital for Psychiatry and Safety Treatment in Cairo. The sample consisted of (30) heroin abusers and their ages ranged between (20-25) years. With a mean age of (22 years) and a standard deviation of (33.1). As for the sample of non-users, they were chosen in a simple random way from university students in Giza Governorate. The sample consisted of (30) non-drinking youth, and their ages ranged between (20-25) years, with an average age of (22 years) and a standard deviation of (37,1).

Conditions for controlling the sample: chronological age, gender, marital status (single), and geographical location. As for the sample of abusers, they used 4 years or more of narcotic substances, mostly heroin.

Study procedures: The study procedures include the following:

- 1- Defining the study sample in a way that ensures its representation of the study variables that are effective in achieving the study's objectives.
- 2- Preparing and building tools that help diagnose the study variables.
- 3- Obtaining approval from the study sample to cooperate in applying the study's standards to them.

STUDY TOOLS

1- Criminal behaviour test: Based on the researcher's knowledge of many Arab and foreign research and studies related to criminal behaviour, as well as reviewing the available tests and standards prepared in advance in the framework of criminal behaviour, it was decided: Preparing a measure of criminal behaviour that fits the subject and sample of the study and is consistent with the culture Egyptian and the special nature of the study sample.

The scale was prepared through a set of steps as follows:

- Examining the scales of studies that dealt with criminal behaviour, such as the psychopathy scale, Muhammad Fayez al-Hajj (1983), the aggressiveness scale of Louis Kamel Malika and others (1973), the personality test for children, Bordia Kamal Ahmed Muhammad (1981) and the interview form prepared by Ahmed El-Sayed Askar (1991), Case history form prepared by Ali Abdel



Salam (1993), Behavioural Deviation Scale, prepared by Nevin Sauber Abdel Hakim (2009). Based on the previous sources, the researcher prepared the scale, which consists of (46) phrases.

Scale correction: It is made by choosing from the three alternatives, the choice that is appropriate to the condition of the examinee, and these alternatives are (No, sometimes, always), knowing that the scores for these three responses are in the order 1-2-3.

Psychometric properties of criminal behaviour test:

First - honesty:

The researcher relied on two methods to verify the validity of the test, which are: the arbitrators' sincerity, and the subjective validity. The researcher presents them with the following:

1 - The arbitrators' sincerity: The researcher presented the vocabulary of the scale in its initial form, which amounted to (46) items to the professors specialized in the field of psychology. put to measure. The names of the arbitrators: Ed / Ahmed Ayad - Ed / Samir Khattab - Adam / Ahmed AlShafer

It was found that there were (3) paragraphs in which the percentage of agreement did not reach (80%) of the total number of arbitrators, namely (21, 33, 40). Therefore, those statements were deleted so that the number of test statements became (43) instead of (46). And she was

The percentage of agreement between the arbitrators was 100% on all vocabulary except for vocabulary numbers 21, 29, 33, 40, so the percentage of agreement reached 66.6%.

Self-honesty: The self-honesty of the criminal behaviour test was calculated using the square root of the alpha- Cronbach stability coefficient. Therefore, we find that the self-honesty is (901.), which is a high percentage of honesty. Second - Stability: Two methods were relied upon to verify the stability of the test, namely: Alpha Cronbach and internal consistency.

1- Alpha Cronbach method: The stability coefficient of Alpha Cronbach was calculated to test the criminal behaviour and the reliability coefficient reached (0.811), where this high value is an indicator of the reliability of the test. Item grade and total score.

Table (1) The stability of the criminal behaviour test by internal consistency

The item is related to the total score. The item is related to the total score

Table (1) The stability of the criminal behavior test by internal consistency

Relevancy of the item to the total score	clause	Relevancy of the item to the total score	clause
0.561	23	0.605	1
0.487	24	0.657	2
0.621	25	0.594	3
0.654	26	0.551	4
0.504	27	0.537	5
0.685	28	0.315	6
0.547	29	0.451	7
0.591	30	0.494	8
0.631	31	0.379	9
0.550	32	0.611	10
0.540	33	0.207	11
0.647	34	0.313	12



0.479	35	0.634	13
0.526	36	0.426	14
0.647	37	0.528	15
0.621	38	0.592	16
0.662	39	0.582	17
0.615	40	0.589	18
0.584	41	0.689	19
0.632	42	0.641	20
0.525	43	0.486	21
		0.561	22

It is clear from Table (1) that all the reliability coefficients of the criminal behaviour test are good, which indicates that the test has a good degree of stability.

The final image of the scale After presenting the scale to the arbitrators and performing the procedures for verifying the psychometric properties (veracity and stability), the number of scale items reached (43) Appendix (5) The test is done between the three alternatives (always - sometimes - rarely) and the calculated score is (1-2 - 3) in a row, and therefore the lowest score on the test is 43 degrees and the maximum score is 129 degrees.

2- The Wisconsin Test for Sorting and Classifying Cards, translated by Assam al-Sheikh, 2016: It is one of the most famous neuropsychological tests designed in (1948) by Grant and Berg and translated by Assam al-Sheikh, 2016, in order to assess abstract thinking, cognitive flexibility, perseverance, and resolution. Problems, ability to test hypotheses and transform cognitive strategies in response to environmental contingencies The main idea of this test is for participants to match response cards with stimuli cards according to an indefinite matching rule that changes after 10 correct attempts where the test requires the participant to find the classification principle (matching) Right by trial or error and through feedback (true-false) and once he gets the correct principle he must maintain it even after changing the stimulus conditions as well as ignoring any unrelated factors, and after 10

Correct attempts the classification principle is changed without prior notice and the examinee has to flexibly switch to another classification principle The current study used the Wisconsin test (the computer version), which was used from the PEBL Psychological Test Battery because the computer tests are characterized by ease of application and ease of monitoring scores. This test consists of 4 main cards (stimuli) and 64 response cards, where The four main cards are displayed at the top of the computer screen where each card differs from the other in cooler (red, green, yellow, blue), in shape (triangle, star, plus sign, circle), and in number (1, 2, 3, 4) The response cards are then displayed at the bottom of the screen and the examinee chooses the cards by pressing under one of the response cards. The participants are not told the rules of matching, but after each attempt, it appears to him on the screen whether the attempt was right or wrong, and after the participant makes 10 attempts Correct The rule was changing, and the correct classification rules that the participant was supposed to follow were colour, then shape, then number.

The psychometric efficiency of the test: In order to verify the validity of the test, the researcher calculated the validity of the test dependency. The analyses indicated that there is a strong significant correlation between each of the palm scores, classification, the total score, and a number of the famous Brave List scales for measuring executive functions. Table (2) shows the relationship matrix between those variables.



Table (2) Matrix relationship between the Wisconsin test and the Brave list

persistence errors (WCST)	*(WCST) Categories	
0.666**	0.732**	the transfer (BREIF)*
0.684**	0.789**	(BREIF) settings

.Wisconsin Card Sorting Test :WCST *

0.684**	0.684**	(BREIF) The initiative
0.701**	0.789**	working memory (BREIF)
0.651**	0.712**	(BREIF) planning
0.480**	0.625**	(BREIF) Organization
0.666**	0.636**	(BREIF) Follow-up
0.813**	0.877**	Total marks (BREIF)

• WCST: Wisconsin Card Sorting Test

The results of the study hypotheses and their discussion:

The results of the study hypotheses are presented and discussed in the light of previous studies and literature.

First- Presentation and discussion of the first hypothesis:

Which states: "There are statistically significant differences in some cognitive functions between youth who use and do not abuse heroin."

To test the validity of the hypothesis, the researcher conducted a method (Canonical discriminant) to verify the discriminant ability of the test, as shown in Table (3) for the scores of addicts and normal people.

Table (3) t-test to analyse the differences between users and non-users on the Wisconsin test.

indication	t value	p	M	the sample
0,001	11, 7	7,19	7.51	non-users
		4,23	17,9	users

It is clear from Table (3) that there are differences between drug users and non-users, where the value of "t" is 7, 11, and that the performance of nonusers on the criminal behaviour test was better than the performance of drug addicts, where the non-users got 7.51, while the addicts got 17, 9 This indicates that substance abusers Narcotics (heroin) exhibit inconsistent behaviour, which predicts criminal behaviour.

It also indicates that drug users have a problem in analysing the task and understanding the possible changes and their logicity and the inability to anticipate the results and choose possible methods to solve the problem and review those methods and switch between them when a sudden change occurs; it also indicates the weak ability of drug abusers compared to nonusers to plan, abstract thinking, and switch between stimuli. And assimilation of new situations, loss of initiative, perseverance, rigidity, cognitive rigidity, inability to complete tasks, and inability to adapt to new conditions. The results of the study agreed with the study of Niehues & Barcelo.2009.



Second - Presentation and discussion of the second hypothesis: which states: "There are statistically significant differences in criminal behaviour between youth who use and do not abuse heroin."

To test the validity of the hypothesis, the researcher conducted a t-test to analyse the differences between drug users and non-users, as shown in Table

Table (4) T-test to analyse the differences between users and non-users on the criminal behaviour” t”

indication	t value	p	M	the sample
0,001	6,23*	7,23	4,52	non-users
		9,93	7,98	users

It is clear from table (4) that there are differences between drug users and non-users, where the value of “t” is 23.6, and that the performance of nonusers on the criminal behaviour test was better than the performance of drug addicts, where the non-users got 52.4, while the addicts got 98, 7 This indicates that drug abusers exhibit inconsistent behaviour, which predicts criminal behaviour. The results of this study agree with what Festinger indicated that cognitive dissonance and its disposal, may be through the individual's tendency to distort reality represented by some forms of criminal behaviour. And I agreed with the study of Amina, F., Alizadeh, H., & Rezaei, O, (2012) that there are statistically significant differences between addicts and normal people, where addicts showed weakness in cognitive functions compared to normal, through a lack of mental flexibility and concept formation. And I agreed with the study of Matsumoto, PA, & Rossini, J. C, (2013) that there are differences between addicts and normal people in cognitive functions, which confirms that girls’ use of substances that affect the nerves leads to weakness in cognitive functions and weakness in the ability to solve problems and organization. Planning, learning new skills, weakness in visual abilities, cognitive flexibility, inability to stop responses and control emotions and impulsivity, and this weakness results in the inability to adapt and adapt with the environment, which predicts criminal behaviour (Amina, Alizadeh, & Rezaei, 2012), and agreed with the study of Niehues. E.& Barcelo.2009)

The results of this study agreed with some previous studies on the negative effects of drug use on cognitive processes, foremost of which are attention and working memory, including Matsumoto & Rossini.2013 study, and Smith and colleagues (2006) study, which indicated that continued drug use leads to a long-term impairment of memory. Verbal acoustics, memory of personal events, and visual-spatial memory, and they also negatively affect the performance of executive functions (Karama Abdel Halim El-Sayed, 2015).

Recommendations: The researcher recommends the following: - Conducting training courses to educate young people at the university level about the negative effects of drug abuse, in addition to awareness sessions about criminal behaviour and its manifestations among drug users.

Taking care of young people by holding educational courses (religious - health - psychological) for the harms of drug abuse among young people. Suggested studies and research: A rehabilitation program for drug addicts and its impact on reducing criminal behaviour and improving cognitive functions.

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