Comparing Emotional Excutive Functions in two Groups with Adaptive and Maladaptive goals

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ABSTRACT

This research is an attempt to compare excutive functions in two groups with adaptive and maladaptive goals. 31 individuals with adaptive goals and 39 with maladaptive goals were selected with multistage sampling in Tehran. The individuals were asked to answer questionnaires of motivational structure (PCI) and Tower of London (TOL). Data were analyzed by t-test to compare the means of two independent groups. The results showed that there were some differences between two groups in excutive functions, in terms of total time, time-tested, the total number of errors and the total result. The research concludes that there is a direct relationship between executive function and adaptive motivational structure, it means any person with more adaptive motivational structure in executive functions also will receive better results in executive functions.

Keywords: adaptive goal structure, maladaptive goal structure, excutive functions

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INTRODUCTION

Doing a task in life requires the selection and pursuit of a goal. The pursuit of a suitable target is so important to achieve mental health [7]. People experience one the most sensitive periods in their youth due to main changes that they go through and their need for setting goals in various aspects. To have mental balance, people adopt different methods of emotional and behavioral self-regulation [1]. In normal conditions people choose and pursue those goals that give meaning to their lives and add to their satisfaction. They may also avoid the goals that cause psychological harms. However, people like addicts or criminals choose to peruse socially unacceptable and destructive goals, such as addictions. Sometimes people fall in trouble to find useful and satisfactory goals, such as depressed people or who are lack of necessary motivation for achievement. Others spend their time and energy in vain pursuit of their goals, which is better to ignore, like those who are afraid or who are unable to ignore the unattainable goals [8]. Human targets may be small or large, such as a small moment of fun, finding a partner, have children and care of his success in performing the task, being rich, achieve spiritual aspirations and so on. These goals can be positive (Apptitive), such as what is mentiond above or negative (avoidance), such as avoidance of disease, argue and so on [3]. The strategies people adopt to boost or maintain happiness or ease distress

play a major role in their mental health. These strategies help people to have more control or influence on their emotions and avoid distress or stress. Those with adaptive motivational structure, utilize their resources to pursue healthy stimuli. They mostly set positive goals, are highly committed to their goals and seek pleasure in achieving their goals. Although they will be offended in case of failure to reach their goals, manage to maintain a positive view of themselves and encounter the least conflict between their goals [3]. These people attempt to reach positive goals and strive to get rid of irritating and negative goals [12]. There is a general correlation between attitudinal mood, positive emotions and actively pursuing goals [4].

Those with maladaptive motivational structure provoke their emotions through unhealthy ways and are affected by confusion and disorder. They seek avoidance goals, find little pleasure in reaching their goals and will not be disturbed much if fail to reach their goals. These people follow their goals irrespective of success or failure and face major conflicts between their goals. They will be aware of their maladaptive motivational structures when they are affected by serious mental-behavioral problems or disorders. This is the time that they start to review their goals in different stages of their lives [3]. Given that executive functions included several physiological functions such as decision making, planning, inhibition, sequencing and growth planning for motor and movement outputs and indeed executive functions are responsible for planning actions, and development of new motor outputs - that are adaptive in response to external situations [11]. So to conduct an objective and accomplish the goal, we need executive functions in order to decide about it, plan and own the process of self-guidance of their behavior to achieve the desired goal. It would be impossible to achieve goals if you do not use executive functions properly. Now this question is being raised whether adaptive and maladaptive goals exsistance in community result these people impaired in executive functions in terms of psychological functioning?

MATERIALS AND METHODS

The current research is of ex-post factor (causal- comparative). Population of the research consists of young people between the ages of 20-35 in Tehran with diploma to PhD degrees. 70 individuals were selected from among the statistical population. This sample included 31 individuals with adaptive goal structures and 39 with maladaptive goal structures. To ensure having a homogeneous sample it is attempted to maintain equality between the number of female and male individuals to the possible extent. Also to assess the impact of emotional self-regulation on people with adaptive and maladaptive goals, some variables including education, marital status, left-handedness and right-handedness have also been studied. The sample size was randomly selected in some stages in Tehran. Firstly, Tehran was divided into four parts and secondly 18 people were selected from among each part. To select sample groups with adaptive and maladaptive goals, PCI questionnaires were handed out to the people. Then individuals with more than 11 consistent goals were categorized into adaptive and maladaptive groups according to the scores given to the goals as well as rate of satisfaction with reaching goals or dissatisfaction with failing to reach goals. Finally, LOT questionnaires were distributed among the individuals.

The research has employed the following tools:
1.PCI questionnaire is used to divide the individuals into two groups with adaptive and maladaptive goals. PCI questionnaire is an improved form of motivational structure questionnaire. It is considered as an individualistic questionnaire that studies current goals of people in terms of 12 different areas [3]. In PCI, the individuals are required to think about their goals in different stages of life and write them down. Then they are asked to score the ways of reaching their goals in a scale of 10. This questionnaire enjoys proper validity and reliability. According to Cox and Klinger (2002) internal consistency of 10 PCI scales calculated by means of Cronbach alpha method is 0.81 for a sample of 182 students.

2. MARS emotional self-regulation questionnaire is used to assess styles and methods of regulating emotions of the individuals. The questionnaire has 44 questions about cognition, behavior, situational change, emotional change, reducing negative mood and increasing positive mood. MARS strategies test is a cloze 7 optional test arranged on a continuum from never, rarely, sometimes, on an average level, often, most of the time and always and is scored from 0-6. This questionnaire responded by 60 people (30 girls and 30 boys) enjoys content validity. The questionnaire's reliability and Cronbach alpha are 0.75 and 0.80

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respectively. Given the nature of the research questions and to analyze the data, Levin test was used to assess equality of variances. Meanwhile, employing Spass 19 statistical software, statistical t-test or two-sample comparison of means test was used to compare the means of two independent groups. Finally statistical indicators such as mean and standard deviation were used to describe and summarize the data. Tower of London test has been used to measure subjects' components of executive functions. This test was first introduced by Shallice (1982) to evaluate the brain's executive functions, namely planning (pre-frontal lobe, which is sensitive to performance) and the computerized mapping and it was designed in 1993 [13]. Computer mapping test was used in this study. Various stages of the test are displayed on the sensitive monitor to touch. Two layouts of subjects are shown in a vertical three columns with different sizes on the screen and three different colored rings are placed on them. A Layout as a template or aim is shown to the subjects and can not be modified. The bottom alignment includes rings that their locations can be changed by the subjects, rings can move with a call on a computer screen by finger rings.

This test consisted of four stages, each stage was more difficult than before gradually. Firstly the two motions were solved, the second stage with three movements, the third stage, with four movment, and the fourth with five. Each of the above four steps were repeated four times. After explaining the instructions, the participants were reminded that before the beginning of each stage, look the above layout and take the rings location. Then based on the model, move the rings in lower layout after evaluation and planning of movements, that the minimum possible movement may solve the problem. Final results which was recorded at each stage by the computer, as follows:

1) the number of movements performed by subjects in each of the four sections of each stage,
2) The time planning that is interval between the first task on the screen and touch it by the subjects and
3) The time of next thought or execution time of the test is the time interval between the first ring touch and finish the task. Next time planning and thinking in each of the four sections was reported, and finally the average of movement numbers, the average time to plan and average thinking time was recorded and displayed.

12 tests were given to the subjects to be measured the whole time, total time delay, the test of time, the total number of errors and the resulting total (Total Points). Data were analyzed by Levin test to study equality of variance and t-test to compare the mean of two Independent groups using the statistical software spss 19 to describtion and summarization of data indicators by using descriptive statistics such as mean and standard deviation

RESULTS

There were some differences between adaptive and maladaptive goal structures in terms of total time, time-tested, the total number of errors and the total result. As a result a significant change was observed between two groups. Inferential statistics could be used after being ensured of a normal distribution. Subsequently parametric statistics would help to analyze the data. In this research K.S test was used.

Table. Comparison of two groups

variable	Group	N	T	Df	Significant figure	Lower limit	Upper Limit
Total time	Maladaptive goals	39	2.502	68	0.015	16.94	150.548
	Adaptive goals	31					
Time delayed	Maladaptive goals	39	0.485	68	0.629	-22.154	36.374
	Adaptive goals	31					
Time tested	Maladaptive goals	39	2.896	68	0.005	23.834	129.433
	Adaptive goals	31					
total number of errors	Maladaptive goals	39	3.825	68	0.000	3.513	11.177
	Adaptive goals	31					
Total Result	Maladaptive goals	39	-4.047	68	0.000	-5.571	-1.891
	Adaptive goals	31					

According to the table, the hypotheses are verified from the dimensions of behavior, total time, time-tested, the total number of errors and the total result. Therefore adaptive and maladaptive goals differ from each other, except time delayed, which did not show any significant difference in adaptive and

maladaptive goals between two groups. Consideration both lower and upper limits, it could be understood that adaptive goals group is higher than maladaptive goal group in all dimensions of in terms of total time, time-tested, the total number of errors and the total result.

DISCUSSION

As stated in the introduction, the purpose of this research was to compare excutive functions in two groups with adaptive and maladaptive goals. The research findings showed there were some differences between adaptive and maladaptive goal structures in terms of total time, time-tested, the total number of errors and the total result, except time delayed, which did not show any significant difference in adaptive and maladaptive goals between two groups. It means that people with any type of motivational structure do the same in the onset of response and solve the problem and the time of delay is equal between them at the onset of issues.

In explaining this result we can say that the motivational structure by which people advance their issues and objectives, have an influence on executive functions, that means the structure is more adaptive goals, individual performance would be better to reach the goals. Bydrmn's research (2004) is consistent with the results of this research. He made a research on executive function deficits on the performance of academic progress. The result indicates that children with attention disorder failure – with deficit hyperactivity had poorer academic achievement in eexecutive functioning than children who only had impairment of attention failure-hyperactivity.

Mola'i, Moradi and Gharaee (2007), compared the executive functioning and neurological impacts evidence of obsessive compulsive disorder and generalized anxiety.

In this research 22 of patients with obsessive compulsive disorder, generalized anxiety and variables with normal subjects matched for age, sex, educational level, and marital status were selected and data were collected through Beck anxiety and depression tests, Yale-Brown Obsessive Compulsive Scale and categories tests using the Wisconsin. The results showed in executive function by using Wisconsin cards, obsessive group demonstrated poorer performance than another group, but no difference was seen in epidemic and normal anxiety between groups.

Also Giyan Cola (2007) also stated the structure of executive functions play important role in controlling and guiding behavior, and are important to adapt and successful performance in real life. They allow individuals to start and complete assignments and persevere in the face of challenges, they d. Hughes and Graham (2000), Pnyngton and Walsh (1995), Alizadeh and ZahediPour (2004) believed executive functions are all complex cognitive processes that are required in new or difficult assignments puts in its place and includes ability to delay or prevent a specific response to the planned sequence operation and maintenance of mental tasks by working memory. Giyan Cola (2007) has stated the term of executive functions to a wide range of conscious metacognitive processes such as planning, organized search, impulse control, purposeful behavior, goal representation, storage, collection, use of flexible solutions, selective attention, control attention, starting task, smooth action and self-evaluation and performance.

In further explaining of the results of this study, it can be said maladaptive goals structure individuals spend more time for planning and conducting their own goals and are involved with their issues longer. While the adaptive goals structure individuals solve their problems or follow their goals with more specific and more organized and become less confused and distressed.

Group with adaptive goals have more control over various aspects of their emotions. They are also able to regulate and control their emotions in line with their objectives and plans, examine every aspect of the isuues before the problem, so resulting less erroneous. These individuals review process of achieving to the aim before doing anything or planning it and coordinate their own capabilities. Probability these individuals are to gain much more to achieve their goals or more successes in life. But maladaptive goals structure individuals have not tried to get an overall vision before doing a task, so waste time and energy and resulting more erroneous. Meanwhile they have less ability to control their emotions and face more

problems in planning and achieving their goals. According to these theories that are consistent with the results of this study, it shows direct relationship between performance and executive function in people with adaptive goals, it can be concluded that the reason for the high percentage of maladaptive goals individuals in scioety is that these people have problems in terms of executive functions.

REFERENCES

[1] Alizadeh H, ZahediPur M, Cognitive Knowl, **2004**, 6, 3.

[2] Biederman J, Monuteaux MC, Doyle AE, *J Consult Clin Psychol*, **2004**, 72: 757Y766`

[3] Cox WM, Schippers GM, Klinger E, Skutle A, *J Stud Alcohol,* **2002**, 63(3), 280-285.

[4] Elliot AJ and Church MA, *J Counsel Psych,* **2002***,* 49, 243-254.

[5] Gian Cola, *Psycological*, **2007**, 18, 649-655.

[6] Hughes C, and Graham A, *Child Adoles Ment Heal*, **2000**, 7, 131-142.

[7] Klinger E, *The contents of thoughts*, Hillsdale, NJ: Erlbaum**, 1996a**, pp 3-23.

[8] Maier GW, and Brunstein JC, Annual meeting of the American Psychological Association, Boston, **1999**.

[9] Molaee M, Moradi A, Gharabi B, *Beh Sie J*, **2007**, 2, 131-141.

[10] Pennington BF, and Welsh M, Neuropsychology and developmental psychopathology, New York, NY, USA: John Wiley & Sons**, 1995**, 1 pp. 254–290.

[11] Reynolds C, Horton R, MacNeill A, Psychology in the Schools, **2008,** 45, 9, 875-892.

[12] Roberson L, *J Organ Beh*, **1990**, 11, 29-41.

[13] Shallice T, *Bio Sci*, **1982,** 298.