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# Comparative Study of Metacognitive Beliefs and Creativity between the Students who had Addicted Fathers and those who did not have Addicted Fathers

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**Abstract**: This study aimed to investigate and compare metacognitive beliefs and creativity of the students who had addicted fathers and those who did not have addicted fathers in 2012-2013 academic years. The method used in this study was descriptive. The type of the research was causal – comparative. The statistical population of the study included all the students who had addicted fathers and those who did not have addicted fathers. These students enrolled in the school in Bandar Abbas city in 2012-2013 academic years. The sample size of the study was considered as 150 participants (75 students with who had addicted fathers and 75 students who did not have addicted fathers). The sample was selected using multi-stage, stratified and simple random sampling methods. In this study, two standard questionnaires including metacognitive beliefs (MCQ-30) questionnaire and Torrance creativity assessment questionnaire were used. The collected data of the research was analyzed using SPSS software version 19 as well as several statistical methods including Multivariate analysis of variance (MANOVA), analysis of variance in MANOVA context and regression analysis. The results of the analysis of collected data of the research showed that there are significant differences between metacognitive beliefs and components of metacognitive beliefs of the students who had addicted fathers and those who did not have addicted fathers in Bandar Abbas. The components of metacognitive beliefs included uncontrollability and danger of thoughts, positive beliefs about anxiety, cognitive awareness, cognitive confidence the need to control thoughts. In addition, the results of analysis of collected data of the research indicated that there are significant differences between components of creativity (extension, innovation, flexibility) of the students who had addicted fathers and those who did not have addicted fathers in Bandar Abbas. However, no significant difference was found between fluidity component (relevant to creativity) of the students who had addicted fathers and those who did not have addicted fathers.

**Keywords:** Metacognitive Beliefs, Creativity, Addiction

## INTRODUCTION

All human progresses and accomplishments in life are due to his fruitful, dynamic and effective ideas. The most complex and perfect expression of the human thinking is revealed in creative thinking. Creativity can be defined as creating a new, valuable and commensurate plan. In other words, creativity is defined as using mental abilities in order to create a new concept or idea [1]. There are several factors, which are considered as the barriers to manifestation of creativity in an individual. These factors affect manifestation of creativity in an

individual in various ways in all stages of his life from birth to adulthood. These factors are named environmental barriers to manifestation of creativity in an individual. Some of these factors stem from the interactions within the family environment in the childhood, which influence the manifestation of creativity in the child. In other words, the barriers to manifestation of creativity in a child originate from his interaction with his parents and the household environment in his childhood [2].

Dependence on drug is one of the major problems in the world nowadays. Since dependence on drug has inhibitory effects on the growth and prosperity of the community, it is considered as a serious and worrying threat to the society. It is also considered as one of the most important public health problems in the world [3] .

Addressing the needs of the children whose parents are addicts is essential since these children are not delinquent offenders yet. Unlike what everybody believes, children of divorce are not the only kind of children who not tend to commit deviant acts. On the other hand, the children who did not receive proper learning in the family system (or family environment) are likely to show deviant behavior in their adulthood. In other words, the learning process within the family system and the kinds of interactions the children receive from their parents in the household environment are considered as the basic guidance that shows the proper path to be taken by the children in their lives in the future. If the children do not receive proper learning and interaction from their parents in the family environment, it is probable that the children might be rebellious in the future and tend to commit deviant actions. This is because parental memes are passed from the parents to the offspring [4] .

Metacognitive beliefs are considered as the kinds of beliefs, which relate to an individual's thoughts about himself as well as his relevant thinking processes [5] .

So far, a limited numbers of studies have focused on the relationship between metacognitive beliefs and the academic achievement in the students. However, it seems that metacognitive beliefs have a significant impact on the student's academic achievement [6] .

Spada et al., [7] conducted a correlational kind of study on the individuals with drug dependence disorder. They showed that there is a significant relationship between metacognitive beliefs and drug dependence.

Ahmadi Tahursoltani and Najafi [8] conducted a study on smokers, addicted and normal individuals and compared the metacognitive beliefs and ambiguity tolerance of these individuals. They showed that there is a significant difference between the total scores the addicted individuals obtained on metacognitive beliefs and the other two groups. Abolqasemi et al., [6] conducted a research on students with test anxiety and showed that there is a negative relationship between impaired metacognitive cognitive beliefs and academic achievement of these students .

Based on previous literature, this study aimed to investigate and compare the metacognitive beliefs and creativity of two groups of students who had addicted fathers and who did not have addicted fathers.

## MATERIALS AND METHODS

This is a causative-comparative kind of study. The statistical population of the study included all the students who had addicted fathers and who did not have addicted parents. These students enrolled in the school in Bandar Abbas in 2011-2012 academic years. The sample size of the study was estimated using Cochran formula, which was obtained as 150 individuals. The sample was selected using multi-stage random sampling method. First, the status of the students' father was identified (whether he was an addict or not). Then, 50% of the sample size (75 individuals) was selected from the students whose fathers were addicts while the remaining 50% (75 individuals) was selected from those whose fathers were not addicts.

In this study, two standard questionnaires were used including metacognitive beliefs questionnaire (MCQ-30) and the Torrance Creativity Assessment Questionnaire. Torrance Creativity Assessment Questionnaire was developed based on the definition of creativity presented by Torrance. The content assessment method was used in order to assess the validity of this questionnaire. Thus, the views of experts on the issue of creativity were asked (or collected). These experts commented on several concepts relevant to creativity including fluidity, flexibility, extension and innovation. Then, the views were compared and similar view were selected and confirmed as the effective factors affecting the creativity. The reliability coefficients of the subtests relevant to fluidity, flexibility, extension and innovation tests on 2270 Spanish students were obtained respectively as 0.75, 0.66, 0.61 and 0.61using Cronbach's alpha coefficient.

Metacognition questionnaire (30MCQ-) is a kind of self-report scale, which contains 30 items. This questionnaire assesses the individuals' thoughts about themselves. This questionnaire is developed by Wells and Cartwright. The Cronbach's alpha coefficient for the total scale was reported as of 0.91. Furthermore, the Cronbach's alpha coefficients for the subscales including uncontrollability, positive beliefs, cognitive awareness, cognitive confidence and the need to control thoughts was reported respectively as 0.87, 0.86, 0.81, 0.80 and 0.71 [9]. In the present study, the internal consistency coefficient of the metacognition questionnaire was obtained as 0.907 using Cronbach's alpha coefficient.

## RESULTS

The questionnaires were distributed among the subjects. Then, the questionnaires were filled out by the subjects. Then, the collected data were analyzed using SPSS statistical software. The collected data of the research was analyzed using both descriptive and inferential statistics. In descriptive level of statistical analysis, the mean and standard deviation statistics were used. In

inferential level of statistical analysis, multivariate analysis of variance was used. Then, analysis of variance in the MANOVA context was used in order to test each hypothesis individually.

**Table 1.** The statistical parameters including mean, variance and standard deviation relevant to metacognitive beliefs of students with addicted fathers

| Component | Number | Maximum | Minimum | Mean | Standard deviation | Variance |
|---|---|---|---|---|---|---|
| **Metacognitive beliefs** | 75 | 43 | 78 | 62.40 | 7.891 | 62.270 |
| **The need to control thoughts** | 75 | 6 | 13 | 9.60 | 2.260 | 5.108 |
| **Uncontrollability and danger of thoughts** | 75 | 11 | 20 | 14.53 | 2.647 | 7.009 |
| **Positive beliefs about anxiety** | 75 | 7 | 17 | 12.40 | 2.515 | 6.324 |
| **Cognitive awareness** | 75 | 7 | 19 | 13.13 | 2.673 | 7.144 |
| **Cognitive confidence** | 75 | 7 | 16 | 12.93 | 2.250 | 5.063 |

The above table reflects the scores obtained by the students with addicted fathers by analyzing the data collected from metacognition questionnaire and its components. The obtained parameters shown in the above table reflect the following findings. The maximum mean among all the components tested was obtained as 14.53 for uncontrollability and danger of thoughts components while the least mean was obtained as 9.60 for the need to control thoughts component. The maximum variance among all the components tested was obtained as 7.144 for cognitive awareness component while the least variance was obtained as 5.063 for cognitive confidence component.

**Table 2.** The statistical parameters including mean, variance and standard deviations relevant to creativity of students with addicted fathers

| Component | Number | Maximum | Minimum | Mean | Standard deviation | Variance |
|---|---|---|---|---|---|---|
| **Creativity** | 75 | 98 | 150 | 127.33 | 16.056 | 257.793 |
| **Fluidity** | 75 | 40 | 56 | 48.73 | 5.396 | 29.117 |
| **Expansion** | 75 | 17 | 29 | 23.13 | 3.618 | 13.090 |
| **Innovation** | 75 | 26 | 42 | 34.33 | 5.461 | 29.820 |
| **Flexibility** | 75 | 13 | 28 | 21.13 | 4.008 | 16.063 |

The above table reflects the total score obtained by the students with addicted fathers by analyzing the data collected from the creativity questionnaire and its components. The obtained parameters shown in the table above reflect the following findings. The maximum mean among all the components tested was

obtained as 48.73 for fluidity component while the least mean was obtained as 21.13 for the flexibility component. The maximum variance among all the components tested was obtained as 29.820 for the innovation component while the least variance was obtained as 13.090 for the expansion component.

**Table 3.** the statistical parameters including mean, variance and standard deviation relevant to metacognitive beliefs of the students who did not have addicted fathers

| Component | Number | Maximum | Minimum | Mean | Standard deviation | Variance |
|---|---|---|---|---|---|---|
| **Metacognitive beliefs** | 75 | 60 | 88 | 74.27 | 6.330 | 40.063 |
| **The need to control thoughts** | 75 | 5 | 16 | 11.27 | 2.738 | 7.495 |
| **Uncontrollability and danger of thoughts** | 75 | 13 | 21 | 16.13 | 2.622 | 6.874 |
| **Positive beliefs about anxiety** | 75 | 14 | 22 | 15.93 | 2.158 | 4.658 |
| **Cognitive awareness** | 75 | 12 | 19 | 15.93 | 2.280 | 5.198 |
| **Cognitive confidence** | 75 | 11 | 19 | 14.93 | 2.479 | 6.144 |

The above table reflects the scores obtained by the students who did not have addicted fathers by analyzing the data collected from the metacognition questionnaire and its components. The obtained parameters shown in the table above reflect the following findings. The maximum mean among all the components tested was obtained as 16.13 for uncontrollability and danger of thoughts components while the least mean was obtained as 11.27 for the need to control thoughts component. The maximum variance among all the components tested was obtained as 7.495 for the need to control thoughts component while the least variance was obtained as 4.658 for the positive thoughts about anxiety component.

**Table 4.** The statistical parameters including mean, variance and standard deviations of creativity of students who did not have addicted fathers

| Component | Number | Maximum | Minimum | Mean | Standard deviation | Variance |
|---|---|---|---|---|---|---|
| **Creativity** | 75 | 87 | 150 | 123.67 | 15.771 | 248.739 |
| **Fluidity** | 75 | 32 | 57 | 48.33 | 6.755 | 45.631 |
| **Expansion** | 75 | 14 | 31 | 21.13 | 4.378 | 19.171 |
| **Innovation** | 75 | 23 | 40 | 32.67 | 4.872 | 23.739 |
| **Flexibility** | 75 | 17 | 26 | 21.53 | 2.961 | 8.766 |

The above table reflects the total score obtained by the students who did not have addicted fathers by analyzing the data collected from the creativity questionnaire and its components. The obtained parameters shown in the table above reflect the following findings. The maximum mean among all the

components tested was obtained as 48.33 for the fluidity component while the least mean was obtained as 21.13 for the expansion component. The maximum variance among all the components tested was obtained as 45.631 for the fluidity component while the least variance was obtained as 13.090 for the flexibility component.

**Testing the Hypotheses**

The First hypothesis: there are significant differences between metacognitive beliefs of the students who had addicted fathers and those who did not have addicted fathers in Bandar Abbas.

**Table 5.** Multivariate analysis of variance test (MANOVA) relevant to metacognitive beliefs of the students who had addicted fathers and those who did not have addicted fathers

| Values | Sum of squares | df | Mean of squares | F | Level of significance |
|---|---|---|---|---|---|
| **Between groups** | 5280.667 | 1 | 5280.667 | 103.205 | 0.001 |
| **Within the group** | 7572.667 | 148 | 51.167 | | |
| **Total** | 12853.333 | 149 | | | |

The multivariate analysis of variance was used in order to test (analyze) the above hypothesis. Then, the analysis of variance in MANOVA context was used to test each hypothesis individually. As it can be seen in the above table ($P<0.01$, $df=1$, $F=103.205$); therefore, the null hypothesis is rejected and the research hypothesis is accepted. In other words, there are significant differences between metacognitive beliefs of the students who had addicted fathers and those who did not have addicted fathers in Bandar Abbas.

The second hypothesis: there are significant differences between the creativity of the students who had addicted fathers and those who did not have addicted fathers in Bandar Abbas.

**Table 6.** Multivariate analysis of variance test (MANOVA) relevant to the creativity of students who had addicted fathers and those who did not have addicted fathers

| Values | Sum of squares | df | Mean of squares | F | Level of significance |
|---|---|---|---|---|---|
| **Between groups** | 504.167 | 1 | 504.167 | 1.991 | 0.160 |
| **Within the group** | 37483.333 | 148 | 253.266 | | |
| **Total** | 37987.500 | 149 | | | |

The multivariate analysis of variance was used in order to test the above hypothesis. Then, the analysis of variance in MANOVA context was used to test each hypothesis individually. As it can be seen in the above table ($P<0.160$, $df=1$,

F=1.991); therefore, the null hypothesis is accepted and the research hypothesis is rejected. In other words, there are not significant differences between metacognitive beliefs of the students who had addicted fathers and those who did not have addicted fathers in Bandar Abbas.

## DISCUSSION

This study aimed to investigate and compare the metacognitive beliefs and the creativity of the students who had addicted fathers and who did not have addicted fathers in 2011-2012 academic years. The data collected from analysis of the distributed questionnaires were analyzed and the following results were obtained. By testing the first hypothesis, it was concluded that there is a difference between the two groups. In other words, there are significant differences between cognitive beliefs of the students who had addicted fathers and who did not have addicted fathers. Since the environment as well as the surrounding people, especially the parents, affect the behavior, thoughts and beliefs of an individual, addiction of the parents can affect the way of recognition, response to emotions, beliefs, etc. As the findings of the research showed, the mean of metacognitive beliefs of the students who had addicted fathers are significantly lower than those who did not have addicted fathers. By testing the second hypothesis, it was concluded that the difference between the two groups is not significant. In other words, there is no significant difference between level of creativity of the students who had addicted fathers and those who did not have addicted fathers. Since creative individuals see the world with fresh eyes and create innovative alternatives, the environment and the state of addiction of the father might not significantly affect the process of thinking in the creative individuals. The findings of this research are in line with those previously conducted in this area [10, 11] .

According to the results obtained from this study, it is recommended that both parents and the families develop several measures in order to increase the creativity of the students. The schools practitioners should offer the students specific training in the field of metacognition. The School practitioners should also prepare academic and scientist materials on metacognitive beliefs in the format of several educational brochures for the students and distribute these pamphlets among the students. In order to increase the generalizability of the study, it is recommended that a number of similar studies be conducted in which the relationship between gender, age, educational level factors and other relevant factors and creativity and metacognitive beliefs are focused on. In addition, it is suggested that the relationship between the components of metacognitive beliefs and creativity be addressed in the future studies.

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