



# Comparison Metacognitive beliefs and Control Strategies of Thought and Document Styles among Diabetes and Healthy People

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## ABSTRACT

**Objective:** The aim of this study was to compare Metacognitive beliefs and control strategies of thought and document styles in between diabetics and healthy. **Methodology:** The study population consisted of all patients admitted to hospitals and specialized clinics of Ardabil in the first half of 2015. The research method is causal-comparative and be available for sampling. To collect the data, a documentary style (ASQ), a questionnaire metacognition (MCQ) and thought control questionnaire was used in this study. Manoa test was used to examine the research hypotheses. **Results:** The findings of this study showed that among the components of Metacognitive beliefs between the two groups of patients with diabetes and normal subjects there is a significant difference ( $P>0.05$ ) and the mean scores of positive beliefs about worry, uncontrollability and danger, cognitive confidence and the need to control thoughts samples from diabetic group than in normal group and only in the cognitive self-consciousness, there is no difference between the two groups. **Conclusion:** It can be concluded that due to the need to educate people with diabetes to increase their metacognitive beliefs.

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## 1. Introduction

Diabetes is one of the most important and common disease that affects people of different ages (Amir et al., 1997; Chavan, 2009) and its complications are a major cause of mortality and morbidity (Winner, 2010). Diabetes, a common chronic disease that can affect physical performance, development of complications, mental condition, and individual, family, and community, and understanding of health affect sexual function. According to the World Health Organization over the next 25 years the number of people with diabetes will double, so that from 171 million in 2000 to 366 million in 2030. Iran, with a prevalence of 8%, is among the areas with the highest percentage of diabetes in the world is allocated. Diabetes is the ninth leading cause of death for men and the sixth leading cause of death in the United States and about 18 percent of people over age 25 make up (Reynolds and Wells, 1999). In diabetes, the body's ability to use speed and reduced glucose metabolism of blood sugar levels increased, therefore arises is called hyperglycemia. When this sugar is present in the body in the long term microvascular complications of diabetes or tiny blood vessels in the body that can damage body organs such as the kidneys, eyes, and nerves are involved. Diabetes also increases the risk of cardiovascular disease has a direct relationship. Therefore, screening and early detection of the disease in high-risk people can prevent the risk of complications. Diagnosis and screening for diabetes with a blood glucose test is possible (McFarlan et al, 2013; Christsen, 2008).

Cognitive psychology, its rapid progress since the second half of the twentieth century began and was in peak condition, a strong opponent like Watson had stood against it. But psychology metacognition, casting new areas of thought that to about 1970 turns (Behrad and Kamali, 2010). Understanding the intellectual currents, learn, how to organize, store and use information. Flavell (1979) was first raised in 1979, the term metacognition. It Flavell (1979) metacognition includes cognitive processes as well as the experience or the regulation of cognition. Metacognition students to acquire knowledge about cognitive processes and knowledge about how to use cognitive control processes refers. Flavell (1979) metacognition as awareness of how one learns, knowledge of how to use the available data to achieve a goal, ability to judge cognitive processes in a particular task, knowing the guidelines for goals use it to evaluate your progress during and after the operation has defined performance (Flavell, 1979). I think the most important attribute is the wizard of human existence and judgment. Give any credibility to the idea of identity and reality. Any resistance would be identity and ductility. Any feelings,

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thoughts have an impact on programming. Any belief, thought and makes you think, makes body and soul. Features think is endless. But it's most important feature robs the devil in mind and create fear and disorder in talent and opportunities and capabilities and anxiety and depression. The plurality of current thinking enemy that is fueled by the devil and Satan raging sea that always keeps up its depths not seen pearls (Hanich et al., 2001).

The documentary style of cause that the person picks for events or results and aspects of personal interpretation of his actions. Document styles, can be internal or external. This means that the individual result or cause of action itself or external factors some document styles of a relatively stable personality variables and show how think that on the knowledge of people in your life adverse events explain. Unfortunate events happen to everyone, but different people in different ways these situations, which are the source of stability and controllability are different, they justify (Peterson and Barrett, 1987; Peterson and Park, 1998; Peterson and Seligman, 1984). As well as some of the other document styles are considered to be an attribute. The Group, document styles tend to offer explanations about the various events defines uniform. Rajabi and Shahni Yeylagh, (2005) believe that the document styles are the two types of events: (a) (b) of positive events and negative events. Each of these events has three components: internal-external documents, records and documents related to stable-unstable global-local (Weiner, 1985).

## 2. Materials and methods

The study of causal-comparative and is ex post facto. Because the investigation solidarity of all researches, which attempted to compare different variables using correlation coefficient discovered or determined in this study compared Metacognitive beliefs and control strategies of thought and style of documents between diabetics and healthy subjects studied place. The study population consisted of all patients admitted to hospitals and specialized clinics of Ardabil in the first half of 2015, which is approximately 420. Sampling random sampling study, the problem and partly because it was impossible to be available. The study was causal-comparative minimum of 25 people is ideal. In this research to increase external validity and generalizability more confident 35 as the sample was selected. Samples were matched for age and sex. The data in this study are both desk and field method. To gather the terms related to the history and literature of the library are used. For data analysis study of statistical indicators such as frequency, percentage, mean, and standard deviation were used as well Manova test was used to investigate the hypothesis.

## 3. Discussion and results

**Table 1. significant level of error variance equality test ( $p > 0.05$ )**

| Variable                    | F     | df1 | df2 | prob  |
|-----------------------------|-------|-----|-----|-------|
| positive document style     | 0.039 | 1   | 64  | 0.844 |
| positive internal document  | 0.675 | 1   | 64  | 0.414 |
| Positive lasting documents  | 0.072 | 1   | 64  | 0.790 |
| Positive general documents  | 0.001 | 1   | 64  | 0.977 |
| Negative attribution style  | 0.376 | 1   | 64  | 0.542 |
| Negative internal documents | 1.678 | 1   | 64  | 0.2   |
| Negative Stable documents   | 0.047 | 1   | 64  | 0.829 |
| Negative general documents  | 0.15  | 1   | 64  | 0.7   |

As can be seen in Table 1 significant level of error variance equality test ( $p > 0.05$ ) shows that the variances are equal, and the assumption of homogeneity of variances are not violated.

**Table 2. significant levels of usability tests**

|       | Exam Name             | the amount of | F     | Hypothesis | df error | P     | Chi Eta |
|-------|-----------------------|---------------|-------|------------|----------|-------|---------|
| Model | Pillai effect         | 0.986         | 6.878 | 6          | 59       | 0.000 | 0.986   |
|       | Wilks Lambda          | 0.014         | 6.878 | 6          | 59       | 0.000 | 0.986   |
|       | Hoteling effect       | 69.950        | 6.878 | 6          | 59       | 0.000 | 0.986   |
|       | The root of the error | 69.950        | 6.878 | 6          | 59       | 0.000 | 0.986   |
| Group | Pillai effect         | 0.057         | 0.594 | 6          | 59       | 0.000 | 0.057   |
|       | Wilks Lambda          | 0.943         | 0.594 | 6          | 59       | 0.000 | 0.057   |
|       | Hoteling effect       | 0.06          | 0.594 | 6          | 59       | 0.000 | 0.057   |
|       | The root of the error | 0.06          | 0.594 | 6          | 59       | 0.000 | 0.057   |

As Table 2 shows all the significant levels of usability tests not permit multivariate analysis of variance. The results show that the studied groups at least one of the dependent variables, there is no significant difference. ( $p > 0.05$ ,  $F = 0.594$ , Wilks Lambda = 0.943). Chi Eta shows the difference between groups

was not significant, according to the dependent variables total amount of this difference on the test Wilks Lambda 0.057, i.e. 5% of the variance of the difference between the groups dependent variable is the effect.

**Table 3 significant level of error variance equality test (p> 0.05)**

| Variable                       | F     | df1 | df2 | prob  |
|--------------------------------|-------|-----|-----|-------|
| Positive beliefs About Concern | 0.057 | 1   | 64  | 0.811 |
| Uncontrollability and danger   | 1.848 | 1   | 64  | 0.179 |
| Make cognitive                 | 0.095 | 1   | 64  | 0.759 |
| Need to control thoughts       | 1.189 | 1   | 64  | 0.280 |
| Cognitive self-awareness       | 0.417 | 1   | 64  | 0.527 |
| metacognition total            | 0.096 | 1   | 64  | 0.757 |

As can be seen in Table 3 significant level of error variance equality test (p> 0.05) shows that the variances are equal, and the assumption of homogeneity of variances are not violated.

**Table 4. significant levels all the tests the usability of multivariate analysis of variance allows**

|       | Exam Name             | the amount of | F     | Hypothesis | df error | P     | Chi Eta |
|-------|-----------------------|---------------|-------|------------|----------|-------|---------|
| Model | Pillai effect         | 0.985         | 8.06  | 6          | 59       | 0.000 | 0.985   |
|       | Wilks Lambda          | 0.015         | 8.06  | 6          | 59       | 0.000 | 0.985   |
|       | Hoteling effect       | 67.168        | 8.06  | 6          | 59       | 0.000 | 0.985   |
|       | The root of the error | 67.168        | 8.06  | 6          | 59       | 0.000 | 0.985   |
| Group | Pillai effect         | 0.175         | 2.551 | 6          | 59       | 0.037 | 0.175   |
|       | Wilks Lambda          | 0.825         | 2.551 | 6          | 59       | 0.037 | 0.175   |
|       | Hoteling effect       | 0.13          | 2.551 | 6          | 59       | 0.037 | 0.175   |
|       | The root of the error | 0.213         | 2.551 | 6          | 59       | 0.037 | 0.175   |

As Table 4 shows significant levels all the tests the usability of multivariate analysis of variance allows. The results show that the studied groups at least one of the dependent variables, there is a significant difference. (P < 0.05, F = 2.551, Wilks Lambda = 0.825). Chi Eta shows the difference between the groups with respect to outcome measures was significant and the total amount of this difference on the test Wilks Lambda 0.037, i.e. 3% of the variance of the difference between the groups is the effect of dependent variables.

**Table 5. The dimensions of positive beliefs about worry, uncontrollability and danger**

| S.O.V | Variable                       | SS       | df | MS      | F      | P     | Ata   |
|-------|--------------------------------|----------|----|---------|--------|-------|-------|
| Model | Positive beliefs About Concern | 76.379   | 1  | 76.379  | 4.277  | 0.043 | 0.063 |
|       | Uncontrollability and danger   | 117.333  | 1  | 117.333 | 9.390  | 0.003 | 0.128 |
|       | Make cognitive                 | 62.061   | 1  | 62.061  | 5.457  | 0.023 | 0.079 |
|       | Need to control thoughts       | 78.545   | 1  | 78.545  | 7.743  | 0.007 | 0.108 |
|       | Cognitive self-awareness       | 3.879    | 1  | 3.879   | 0.358  | 0.552 | 0.006 |
|       | metacognition total            | 1465.47  | 1  | 1465.47 | 11.359 | 0.001 | 0.151 |
| Group | Positive beliefs About Concern | 76.379   | 1  | 76.379  | 4.277  | 0.043 | 0.063 |
|       | Uncontrollability and danger   | 117.333  | 1  | 117.333 | 9.39   | 0.003 | 0.128 |
|       | Make cognitive                 | 62.061   | 1  | 62.061  | 5.457  | 0.023 | 0.079 |
|       | Need to control thoughts       | 78.545   | 1  | 78.545  | 7.743  | 0.007 | 0.108 |
|       | Cognitive self-awareness       | 3.879    | 1  | 3.879   | 0.358  | 0.552 | 0.006 |
|       | metacognition total            | 1465.47  | 1  | 1465.47 | 11.359 | 0.001 | 0.151 |
| Error | Positive beliefs About Concern | 1142.788 | 64 | 17.856  |        |       |       |
|       | Uncontrollability and danger   | 799.697  | 64 | 12.495  |        |       |       |

|                          |         |    |        |  |  |  |
|--------------------------|---------|----|--------|--|--|--|
| Make cognitive           | 727.879 | 64 | 11.373 |  |  |  |
| Need to control thoughts | 649.212 | 64 | 10.144 |  |  |  |
| Cognitive self-awareness | 693.576 | 64 | 10.837 |  |  |  |

As Table 5 shows the dimensions of positive beliefs about worry, uncontrollability and danger, cognitive confidence, the need to control thoughts and metacognition between the two groups of diabetic patients and healthy individuals there was no significant difference ( $p < 0.05$ ) and the average scores given in the diabetic group than in normal group is among the samples. And only in the cognitive self-consciousness, there is no difference between the two groups.

**Table 6 equality of variances test ( $p > 0.05$ )**

| Variable       | F     | df1 | df2 | prob  |
|----------------|-------|-----|-----|-------|
| Distractions   | 0.019 | 1   | 64  | 0.891 |
| Worry          | 1.774 | 1   | 64  | 0.188 |
| Social Control | 0.126 | 1   | 64  | 0.724 |
| Self Spanking  | 0.202 | 1   | 64  | 0.654 |
| re-evaluation  | 0.186 | 1   | 64  | 0.668 |

If there is a significant level of error in Table 6 equality of variances test ( $p > 0.05$ ) shows that the variances are equal and the assumption of homogeneity of variances are not violated.

**Table 7. Significant levels multivariate analysis of variance feature**

|       | Exam Name             | the amount of | F     | Hypothesis | df error | P     | Chi Eta |
|-------|-----------------------|---------------|-------|------------|----------|-------|---------|
| Model | Pillai effect         | 0.989         | 1.108 | 5          | 60       | 0.000 | 0.989   |
|       | Wilks Lambda          | 0.011         | 1.108 | 5          | 60       | 0.000 | 0.989   |
|       | Hoteling effect       | 92.308        | 1.108 | 5          | 60       | 0.000 | 0.989   |
|       | The root of the error | 92.308        | 1.108 | 5          | 60       | 0.000 | 0.989   |
| Group | Pillai effect         | 0.113         | 1.527 | 5          | 60       | 0.195 | 0.113   |
|       | Wilks Lambda          | 0.887         | 1.527 | 5          | 60       | 0.195 | 0.113   |
|       | Hoteling effect       | 0.127         | 1.527 | 5          | 60       | 0.195 | 0.113   |
|       | The root of the error | 0.127         | 1.527 | 5          | 60       | 0.195 | 0.113   |

As Table 7 shows significant levels multivariate analysis of variance feature all the tests not permit. The results show that the studied groups at least one of the dependent variables, there is no significant difference. ( $P > 0.05$  p,  $F = 1.527$ , Wilks Lambda = 0.887).

#### 4. Conclusion

Chronic diseases such as diabetes complicated origin, gradual onset and severity and recovery are unpredictable because of the long process, patient participation in their care must be paid. The results showed that the components of the control strategies of thought and elements of documentary style in between diabetics and healthy subjects, no significant difference was observed. But between metacognition beliefs were significant differences in normal and diabetic individuals. Because of this relationship, it can be said that people with diabetes have misconceptions and wrong. For example, people with diabetes cannot be used until the end of sweets and chocolates. But in fact, if in addition to a healthy diet, along with exercise, a person with diabetes cannot use the desserts and sweets. Of course it must be emphasized that the vast majority of patients with type 2 diabetes have a passion for these materials as they are sometimes the body needs them kind of food can. People with diabetes are uncontrollable due to false beliefs. Control diabetes with diet, one of the easy ways to prevent and control the disease progression disease of diabetes including features that are directly related to diet. In people with diabetes followed a special diet if not aggravate the disease and the effects can be irreversible. That's why people with diabetes need to learn to control your thoughts and awareness of the disease.

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