

# The Relationship between Components of Meta-cognition and Decision Making Styles among Managers at University of Isfahan and Medical Science University of Isfahan

Arefe Mahdiani<sup>1\*</sup>, Dr saeid Rajaeipour<sup>2</sup>, Dr Yasamin Abedini<sup>3</sup>

1. MA of educational management, Department of educational sciences, faculty of education and Psychology University of Isfahan, Isfahan, Iran
2. Associate professor of Department of educational sciences, faculty of education and psychology, University of Isfahan, Isfahan, Iran
3. Assistant professor of Department of educational sciences, faculty of education and Psychology of Isfahan Isfahan, Iran

\* E-mail of the corresponding author: arefe.mahdiani@yahoo.com

## Abstract

The purpose of this research was to study the relationship between meta recognition indices and decision making styles among administrators of University of Isfahan and Medical Science University of Isfahan.

Research Hypothesis were written based on five meta recognition indices (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts) and five decision making styles (rational, intuitional, dependency, instantaneous, avoidance) and considering the demographic traits of statistical sample (gender, age, the years of tenure, university, position, the scientific rank, educational field). This study has been done through descriptive- correlative method. The statistical population included all administrators (presidium, deans of faculties, the chairpersons and the assistants of faculties) in University of Isfahan and Medical Science University of Isfahan during academic of 2012-2013 that were 180 people. The size of the sample using Kerji and Morgan table was determined 123 people and 118 questionnaires were returned. Sample modeling was done through random classified method. The information was collected by meta recognition questionnaires (Wells, A., & Cartwright –Hatton,s, 1997) and decision making styles (Scatt &Brous, 1995). The questionnaires reliability was estimated through the Cronbach alpha coefficient respectively 0.74 and 0.76. Validity of questionnaires was verified by five specialists in management and psychology fields. For analyzing the data Pierson correlative coefficient, linear regression Intro Manova were used. The results showed that there is a significant relationship between managers' meta recognition and decision making style ( $P<0.01$ ). Also significant relationship was observed between meta recognition indices (uncontrollability, the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need for thought control) and the managers' decision making styles(rational, intuitional, dependency, instantaneous, avoidance) ( $p<0.01$ ). Some meta recognition indices (negative beliefs ,positive beliefs about worry, Cognitive self-consciousness ,cognitive confidence, beliefs about need to control thoughts) had meaningful power of predicting for all types of decision making styles. $(P<0.01)$ . Considering meaningful relationship between meta recognition and, the managers' decision making styles .there is a need for more research and intervention in this field in order to improve the quality higher education management.

**Keywords:** decision making , meta-cognition, university administrators

## 1. Introduction

Nowadays making decision in all organizations is one of the most important discussions, because if the manager makes a wrong and thoughtless decision the organization will be destroyed. How often this is an educational organization and includes human destiny. So managers in educational organizations such as universities considering their skills and facilities should make the best decisions to lead the organization into its goals. Making decision as a function of management is placed on top of all manager responsibilities. Without exception its use is presented in all other functions. If we consider decision making in means of a way among various ways to solve the problem we cannot accomplish any planning, organizing, monitoring and controlling without making decision. (MirKamali, 1388, page 170).

Some experts consider decision making as heart of organization and in synonym with management. Because managers spend most of their time and energy in making decision about the organization and making decision includes almost all important tasks of management. They make decisions to solve the problems or to do new actions and then they make them practical. When a decision is placed in the stage of acting, it defines staffs and the whole organization frame of action. In other words manager decision defines organizational activities. Therefore making decision is sensitive and important. (Alagheband, 1390, page 129).

Therefore in attention to that higher educational system is one of the most important social systems and plays an

important role in science productions and training experts for country. The quality of making decision has a growing importance. This quality can be affected by many factors such as different styles of making decision by managers. It's obvious that many defects in this area can lead to poor decisions. They have prejudicial results on the employees of universities and society (Heidary Marzoughi, 1390).

As it mentioned, the style of decision making and the decision is too important and also when people are trying to decide which style indicates their way of thinking .And decisions vary from one person to another and situation to which that person represents, this indicates that individual decision style. Style is a way for people to do whatever they have to work. Here, every manager has to decide with his a particular style .In connection with decision-making styles; there are different theories that in this study one of these theories are discussed in relation to decision styles. One of these researchers, Scott and Bruce(1995), in their studies on individual decision making styles and its influential factors concerned about the internal characteristics and differences between people and based on these researches identified five style of decision making.

**Rational decision making style:** in this style the individual is aware of all solutions and also knows all results that each decision will leads into it and can organizes them according to their priority (Eberlin, 2005).

**Intuitive decision making style:** this style is supported through experience and it considers the focus on emotional self-awareness as a basis for selection. So in this way the decision maker doesn't use a systematic pattern and during his decision making he uses his experience and implicit knowledge (Robbins, 2009).

**Dependent decision making style:** Parker and colleagues (2007) Believe that this type of decision making rather than individual independence of thought will relies on the guidance of others when making decisions (Moghaddam&Tahery ,1387) .and others guidance will play an effective role in this type of decision (Scott&Bruce, 1995). So in this way the decision maker relies on others ideas and has a passive role.

**Spontaneous decision making style:** it indicates the emergency situation that individual without previous thought and at least possible time adopts his decision (Scott&Bruce, 1995). Of course decision may be caused by the condition in which the manager is .But the use of this style is not meant that the decision is crude because in this way the manager's decision is based on his experience and knowledge.

**Avoidance decision making style:** According to Parker and colleagues (2007) in this style when the decision maker faced the problem delays making decision and tends to any decisions making or facing such situations (Moghaddam&Tahery, 1387). He fears and worries about the consequences of his decision. So how the manager makes decision and the style he choose is important especially in the educational organizations. Because a wrong decision can endanger political, social and cultural life of the organization and even will affect activities of staffs and students (Wilson,2010). Also a wrong decision can ruin the organization instead a strong manager can leads the organization to its goals by using appropriate style. And also managers for being successful in making important decisions for the organization need skills to grow the field of human resources and to reach the organization into its high goals. Nowadays we know meta-cognitive skills that are felt by managers more and more .Therefore, meta-cognition and its use by managers is very important for decisions that are related to educational organizations.

Meta-cognition is a concept that refers to a variety of epistemological processes. In defining the concept of meta-cognition it can be expressed as a cognition process. Everything that is related to the process of review, evaluation and planning actively involves cognitive activities .The concept of meta-cognition, were introduced the first time by Flavell (1976). He considered cognition and its active and consequence surveillances as a regulation and organization of related processes to the cognate target. Meta-cognition can be described as critical analysis of thinking, knowledge and cognition about cognitive phenomena (Flavell, 1979). Or more briefly thinking about thinking. So if cognition is knowledge, comprehension and remembrance, meta-cognition of thinking about understanding is comprehension and remembering of individual self (Eleonora, 2008). This concept can concentrate on any aspect of cognition even meta-cognition itself (Dunlosky and colleagues, 2005).

Also meta-cognitive is defined as beliefs and attitudes of a person about cognition, for example meta-cognition about cognition (Flavell& Ross 1981, quoted from Garcia Montes and colleagues, 2006, page 2). Flavell and Wellman (1997) have separated meta-cognitive knowledge (the knowledge that the individual has about his cognition) from the cognitive experience (continued monitoring and managing of cognitive experience). (Garcia Montes and colleagues, 2006, page 2). In following will introduce the basic components of cognition by Cartwright -Hatton and Wells (2004) that have been examined in present study such as:

1. Negative beliefs about uncontrollability of thoughts and danger: Belief which the person thinks constantly thinking is uncontrollable and dangerous (Spada, Mohiyeddini, Wells, 2008, page 238). and also emphasizes on uncontrollable and dangerous worries and stresses. In this belief the individual concerns and fears that his anxiety will cause to madness or sickness, also he thinks his efforts for controlling his anxiety will not result in positive conclusions or stopping that. So he attempts to hide his concern (Wells & Cartwright Hatton, 2004, page 392).

2. Positive beliefs about worry: Meta-cognitive beliefs indicate positive attitudes of person concerns .Believing that the person concerns will help to avoid problems and the ability to organizing activities in a desirable way.

(Wells & Cartwright Hatton, 2004, page 391).

3. Cognitive self-consciousness: a meta-cognitive belief that by virtue of that the individual tries to be aware of his thoughts constantly, think and monitor them. (Wells & Cartwright Hatton, 2004, page 391). He will focus heavily on his mind activities and is aware of them completely and dominates over its details in a way that he exactly knows where his activities are interoperated.

4. Cognitive confidence: It is specified by confidence and reliance on concentration and memory. (Indeed here cognitive distrust and memory distrust is addressed) (Spada, Mohiyeddini, Wells, 2008, page 238). This indicates that confidence in one's own memory. This trust covers a general trust to memory and also a general trust to memory of words and names, places and activities. In some emotional disorders the amount of this belief is evaluated in low levels (Wells & Cartwright Hatton, 2004, page 391).

5. Beliefs about need to control thoughts: Is the meta-cognitive beliefs about thoughts that can lead to action, and therefore must be controlled. If you do not control your thoughts, the responsibility of proving them to be true refers to the individual himself (Wells & Cartwright Hatton, 2004, page 392).

Awareness of meta-cognitive and its usefulness can play an important role in investigation and acceleration of social, economic and educational movements (Jouibari&Hanifi, 1391). Cognitive includes management problems because it includes following elements same as management:

1. Ensure understanding the issue before hasty solving. 2. Planning. 3. Monitoring and staying in path, remaining that everything is going well. 4. Research resources and decide what to do and how much time use for an issue (Stevenson, 1999, quoted by Jafari&Maktabi, 1387). Managers that use meta-cognitive skills in their decisions, ask 3 essential questions from themselves:

1) What should I do? , 2) What reason is there to do? , 3) How will the results be used? (Kumar, 1998). Managers have meta-cognitive attitudes and competencies of managers that in their personal and general responsibilities are managers themselves and in three stages of before act, through act and after that their movement is based on cognition and with more and deeper understanding prove their responsibilities in mentioned areas (Jafari&Maktabi, 1387).

On the other hand effective management requires self-management and environment management. In fact self-management is an introduction for others and also environment management. As Webster (2002) has pointed managers for better self-management need cognitive knowledge and abilities.(Jafari&Maktabi, 1387). Meta-cognitive skills through its effects on self-confidence can strengthen self-believe and self-esteem. (Kleitman and Stankov, 2007) and improve his overall skills. "Therefore improvement of manager's meta-cognition and self-regulation skills, raises manager's potential in solving management and educational problems, improves their motivation and by strengthening self-initiating, self-observation, self-control and self-judge increases the safety factor of their decisions"(Jafari &Maktabi, 1387, page 37).

According to the study mentioned above, the main question in this search is whether between the components of meta-cognition and decision making styles of managers in University of Isfahan and Medical Science University of Isfahan are relation or not? In present study manager's meta-cognition components of University of Isfahan and Medical Science University of Isfahan (Negative beliefs about uncontrollability of thoughts and danger, Positive beliefs about worry ,Cognitive self-consciousness ,Cognitive confidence, Beliefs about need to control thoughts) based on Wells and Cartwright theory (1997), and its relation with decision styles (Rational decision making style, Intuitive decision making style, Dependent decision making style, Spontaneous decision making style, Avoidance decision making style) based on Scott and Bruce theory (1995) will be examined.

## 2. Background research

In Kumar research (1998) concerning the meta-cognitive effects on managerial making decisions while he is pointing to the key role of managerial making decisions, he has stated that successful managers use meta-cognitive skills while they are making decision. Particularly meta-cognitive has a serious effect on manager's performance and their skill of solving problems and making decision. And managers who are trained in the field of meta-cognition will have the power to making better decisions in compare to other managers. Lawrence(2003) entitled in his research "Strategic leadership and decision making," and has stated that the capacity of leadership and strategic thinking requires visualizing performance, cognition self-awareness, judgment, knowledge, skill and professional experience, professional strategies, environmental awareness, communication skills, solving problem skills, making decision skills and ability to motivate yourself and others. He stressed that without any meta-cognitive thinking the individual cannot manages himself as a leader or strategic thinker because meta-cognitive makes a kind of capacity in individual that can control his thinking process. He believes that meta-cognitive skills are acquired and learnable. Here ported that meta-cognitive capacity increases with age. Bryant (2006) concluded in his study that meta-cognitive and self-usefulness improves through education and experience. So for improving elementary school manager's meta-cognitive performance we can bring together necessary arrangements for training, its component and aspects and management based on meta-cognitive. Samsonovich and colleagues (2008) used the Cox and Raja conceptual frame work that had explained how an

individual acts in environment. They described in their general framework that the individual first takes the action and then receives impressions from environment and others then he makes the question: why did I do that? Then comes the stage of reasoned action and monitor their thinking and how it is assessed that the meta-reasoning, or meta-cognition after this stage by controlling performance and according to meta-cognition makes a choice. They introduced three important levels of meta-cognition as be for action, action and after action. Maktabi (1387) has concluded in a result that educational management according to meta-cognition in elementary schools that is named with the general aspects of predicting, performance, self-deep thinking, self-usefulness and management was developed and evaluated and its fitness through path analysis were confirmed by authorities. Rezazadeh (1389) in his research on Ferdowsi Mashhad University understood that their dominant style of decision making is rational and between female and male avoidance decision making styles there is a meaningful difference. But decision making in different ages, educational levels and usual work differences are not different. Tabesh & Zare (1391) in their research entitled effects of emotional intelligent skills education had randomly experiment and control on 36 volunteer women working in transportation organization of country, divided in two equal groups about rational, intuitive, dependent, spontaneous and avoidance and concluded that emotional intelligent education will cause to more use of intuitive making decision style and less use of avoidance, spontaneous and dependent and also can concluded that enhancement of emotional intelligence as a combination of different traits of personality will give the chance to the individual that he can improve his cognitive processes With cognition, perception, emotion regulation and control.

### 3. Research hypotheses

1. There is a relationship between meta-cognition and decision making styles among managers at University of Isfahan and Medical Science University of Isfahan.
2. There is a relationship between components of meta-cognition (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts) and rational decision making styles of managers.
3. There is a relationship between components of meta-cognition (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts) and intuitional decision making styles of managers.
4. There is a relationship between components of meta-cognition (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts) and dependency decision making styles of managers.
5. There is a relationship between components of meta-cognition (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts) and instantaneous decision making styles of managers.
6. There is a relationship between components of meta-cognition (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts) and avoidance decision making styles of managers.

### 4. Methods

Present study according to method is descriptive-correlative. The population studied included all managers (presidium, deans of faculties, the chairpersons and the assistants of faculties) university of Isfahan and medical science university of Isfahan in academic year of 1391-92 makes up from a number of 180 student. The sample volume is 123 student according to Kerjesi and Morgan table that 118 questionnaire is returned and accomplished a level proportional to the volume. Required data by meta-cognition questionnaire (Cartwright & Wells 1997) and decision making style (Scott & Bros 1995) during a five-point Likert scale (totally disagree, disagree, somewhat agree, agree, totally agree) had been collected. To assess the last reliability of cognition questionnaire and decision making style the 30<sup>th</sup> version of questionnaire were distributed between 30 managers randomly. So the Cronbach alpha coefficient of the questionnaire of styles of decision-making and meta-cognition respectively, 0/74 and 0/76 are obtained. And validity of the questionnaire subscales meta-cognition (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts), respectively, 0/78, 0/77, 0/73, 0/77, 0/75 and decision-making styles (intuitive, dependent, rational, avoidant, instantaneous), respectively, 0/79, 0/78, 0/73, 0/73, 0/79 is calculated. For validity of questions and comply with the local culture, has used a number of experts who have confirmed their positive questions. For data analysis, Pearson correlation, linear regression Inter and MANOVA was used.

### 5. Results

Results of statistical tests of hypotheses of first to fifth study are shown in tables 1 to 6.

Hypotheses 1: There is a relationship between meta-cognition and decision making styles among managers at

University of Isfahan and Medical Science University of Isfahan.

Table(1-1): The correlation coefficient between meta-cognition and decision making styles of managers at Isfahan University and Medical Sciences university of Isfahan.

decision making styles			
Criterion variables			
Statistical Indicators Predictive variable			
	correlation coefficient	Square of the correlation coefficient	Significance level
METACOGNITION	**0/584	0/341	0/001

0/01 < p

Results of Table(1-1) shows that the correlation coefficients between the decision making styles and meta cognition of managers at University of Isfahan and Medical Science University of Isfahan was significant.

Based on the coefficient of determination ( $r^2$ ), respectively, 34/1% of the variance in meta-cognition and decision-making styles of managers has been a member of Isfahan University of Medical Sciences. Therefore, the original hypothesis that there are a relationship between meta-cognition and decision-making style of manager of Isfahan University and Medical Science university of Isfahan, is confirmed.

Hypotheses2: There is a relationship between components of meta-cognition (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts) and rational decision making styles of managers.

Statistical Indicators Regression model	Regressi on coefficie nt	Standard error	Standard beta	T	Significa nce level	F	Signific ance level
Constant coefficient	19/522	1/535	-	12/721	0/001	25/546	0/001
uncontrollability and the risk of thoughts	0/083	0/024	0/339	3/239	0/002		
positive beliefs about concern	-0/255	0/071	-0/381	-3/583	0/001		
recognition knowledge	0/444	0/069	0/612	6/477	0/001		
recognition confidence	-0/393	0/050	-0/712	-7/890	0/001		
the need to control the thoughts	0/007	0/107	0/008	0/069	0/945		

Table(1-2):Regression coefficient between rational decision-making style and components of meta-cognition

0/01 < p

According to Table (1-2) the relationship between rational decision-making style with components of uncontrollability and danger of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence is significant, relationship between rational decision-making style and the need to control the thoughts is not significant.

Hypotheses3: There is a relationship between components of meta-cognition (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts) and intuitional decision making styles of managers.

Table (1-3): Regression coefficient between intuitional decision-making style and components of meta-cognition

Statistical Indicators Regression model	Regressi on coeffici ent	Standard error	Standard beta	T	Significa nce level	F	Significanc e level
Constant coefficient	9/210	2/228	-	4/135	0/001	5/416	0/001
uncontrollability and the risk of thoughts	0/053	0/083	0/079	0/642	0/522		
positive beliefs about concern	0/129	0/100	0/179	1/289	0/200		
recognition knowledge	-0/093	0/096	-0/119	-0/967	0/336		
recognition confidence	0/222	0/073	0/373	3/063	0/003		
the need to control the thoughts	0/085	0/146	0/090	0/583	0/561		

0/01 < p

Based on Table (1-3), the relationship between intuitional decision-making style with component of recognition confidence is significant, relationship intuitional decision-making style and uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge and the need to control the thoughts is not significant.

Hypotheses4: There is a relationship between components of meta-cognition (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts) and dependency decision making styles of managers.

Table(1-4): Regression coefficient between dependency decision-making style and components of meta-cognition

Statistical Indicators Regression model	Regression coefficient	Standard error	Standard beta	T	Significance level	F	Significance level
Constant coefficient	12/946	2/599	-	4/981	0/001	17/694	0/001
uncontrollability and the risk of thoughts	0/459	0/098	0/471	4/669	0/001		
positive beliefs about concern	0/284	0/117	0/273	2/430	0/017		
recognition knowledge	-0/515	0/113	-0/461	-4/582	0/001		
recognition confidence	0/103	0/085	0/122	1/221	0/225		
the need to control the thoughts	0/164	0/171	0/122	0/959	0/340		

0/01 < p

Based on Table ( 1-4) the relationship between dependency decision-making style with components of uncontrollability and danger of thoughts, positive beliefs about worry, recognition knowledge is significant. Relationship of recognition confidence and the need to control thoughts and dependency decision-making style is not significant.

Hypotheses5: There is a relationship between components of meta-cognition (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts) and instantaneous decision making styles of managers.

Table (1-5): Regression coefficient between instantaneous decision-making style and components of meta-cognition

Statistical Indicators Regression model	Regression coefficient	Standard error	Standard beta	T	Significance level	F	Significance level
Constant coefficient	4/983	2/014	-	2/474	0/015	9/618	0/001
uncontrollability and the risk of thoughts	-0/084	0/075	-0/128	-1/118	0/266		
positive beliefs about concern	0/217	0/091	0/135	2/391	0/019		
recognition knowledge	-0/168	0/088	-0/220	-1/907	0/060		
recognition confidence	0/294	0/065	0/501	4/482	0/001		
the need to control the thoughts	0/196	0/131	0/213	1/498	0/138		

0/01 < p

According to Table ( 1-5), the relationship between instantaneous styles with components of positive beliefs about worry and cognitive confidence is significant. Relationship of uncontrollability and the risk of thoughts, recognition knowledge and the need to control the thoughts with instantaneous decision-making style is not significant.

Hypotheses6: There is a relationship between components of meta-cognition (uncontrollability and the risk of thoughts, positive beliefs about concern, recognition knowledge, recognition confidence, the need to control the thoughts) and avoidance decision making styles of managers.

Table (1-6): Regression coefficient between avoidance decision-making style and components of meta-cognition

Statistical Indicators Regression model	Regression coefficient	Standard error	Standard beta	T	Significance level	F	Significance level
Constant coefficient	0/624	2/344	-	0/266	0/791	22/614	0/001
uncontrollability and the risk of thoughts	-0/062	0/093	-0/076	-0/665	0/508		
positive beliefs about concern	0/740	0/109	0/850	6/814	0/001		
recognition knowledge	-0/513	0/105	-0/478	4/895	0/001		
recognition confidence	0/505	0/076	0/619	6/634	0/001		
the need to control the thoughts	0/131	0/164	0/100	0/800	0/426		

0/01<p

Based on Table( 1-6) The relationship between avoidance decision-making style with components of positive beliefs about worry recognition knowledge, cognitive confidence, recognition confidence is significant. Relationship of uncontrollability and the risk of thoughts and the need to control the thoughts with avoidance decision-making style is not significant.

## 6. Conclusion

Manager's meta-cognition is from new variable components that have been raised in field of psychology science and management science. This variable component in comparison to new, nowadays because of its importance in offices and organizations as an essential skill for managers has attracted most research attentions. The fact is that how managers with meta-cognitive skills do their organization activities specially decisions in the best way. Results show that there is a significant relation between meta-cognition and manager's decision-making styles .In other words, managers who use their meta-cognitive skills, in an effective way make a better decision. These findings have harmony with the results of Kumar investigation (1998) concerning the effect of meta-cognition on management decisions, in making clear the conclusion we can say that managers who use their meta-cognition ability to make a decision are able to make effective decisions for their organization. Also researches of Lawrence (2003) have harmony in relation to the capacity of leadership and strategic thinking involves visualizing performance ,cognition, self-awareness, judgment, knowledge, skills and professional experience, professional strategies, environmental awareness, communication skills, problem solving skills, decision making skills, ability to motivate yourself and others. It can be said that the leader and manager who tries to strength their cognitive skills and all their effort based on the application of these skills in organizational activities are more successful than managers who don't pay attention to these skills. A manager who looks into all aspects of an issue while he is making decision can effectively communicate with environment and has the ability to judge, manages the organization in successful way.

The findings regarding to the effect of meta-cognition on decision making have harmony with Maktabi researches (1387). The fact that school-based management based on meta-cognition is related to main dimensions of forecasting, performance, seed self-thinking and self-efficacy. It can be said the aspects that Maktabi have mentioned in school-based management are the main aspects of meta-cognition. The manager who has forecasting for school responsibilities uses solving methods and thinks deeply about them to manage the school in best way.

Manager in decision making situations is searching for a good solution if we recognize meta-cognition equal to problem solving methods, managers who use these skills while making decision in worst situations can lead the organization in the best way.

There is a definition for meta-cognition as the same extent of definitions that an individual has for identifying himself. A person who thinks deeply on his activities, analyzes a problem while he is solving it, judges powerfully in various situations, even in difficult situations is able to handle crisis also in managing all his feels especially emotions and excitements is powerful and uses his meta-cognitive and cognitive ability. In this direction findings are in harmony to Tabesh and Zare researches (1391) that is titled, effects of emotional intelligence skills on decision making styles such as rational, intuitive, avoidant, dependent and instantaneous they concluded that emotional intelligence skills training increases the use of intuitive decision making method and decreases the use of avoidant, dependent and immediate method. Also it can be concluded that the enhancement of emotional intelligence as a combination of various traits of personality allows the person to manage and improve himself cognitive processes by recognition, perception and management of emotions and tensions. Decision-making skills in crisis situations, such as when people are faced with a conflict and

contradiction and require careful examination of that situation is one of the meta-cognitive skills. In these circumstances people who are predominant in these skill scan properly make decisions by analyzing the situation correctly and using their meta cognitive skills.

If a director wants to take advantage of all the capabilities of his organization and also in important situations such as decision making which includes the organization itself and people in it uses these skills can consider him relatively as a successful manager. Using the word 'relatively' means that in addition to having this skill, environmental and characteristic elements are somehow interference and cannot ignore its effective impacts. After analyzing the relation between meta-cognition and making decision according to the research theories, the relation between meta-cognitive components and making decision styles (rational, intuitive, dependent, spontaneous and avoidance) and also the anticipation effect of component on styles are analyzed. According to findings the relation between rational decision making style and negative beliefs about uncontrollability of thoughts and danger, positive beliefs about worry, cognitive confidence and cognitive self-consciousness thoughts is a meaningful relation and the relation between rational decision making style and beliefs about need to control is not meaningful. Also positive beliefs about worry and cognitive confidence components have a negative impact on prediction of rational decision making style. Managers sometimes should make decision in tensional and uneasy situations and always concerned that they may not able to control their concerns and because in rational making decision the individual measures all aspects so he will affected with tensions and seeks to a way for controlling them and should have a positive view of these concerns. A manager who is aware of his thoughts and is assured of his memory tends to rational decision making.

In making clear the findings the relation between intuitive decision making and cognitive confident is meaningful. And the relation between negative beliefs about uncontrollability of thoughts and danger, positive beliefs about worry, cognitive self-consciousness thoughts and beliefs about need to control with intuitive decision making style is not meaningful. A manager who is not assured of his memory while he is making decision and cannot analyzes all the aspects of his decision and cannot intellectually gets the result is more likely to decide according his experience and implicit information and chooses the intuitive decision making style.

The relation between dependent decision making style with uncontrollability of thoughts and danger, positive beliefs about worry and cognitive confidence components is meaningful. And the relation between cognitive self-consciousness thoughts and beliefs about need to control with dependent decision making style is not meaningful. This style is used by managers who rely on others helps while they are making decision and others help has an important role in their decisions. For making it clear we can say that all concerning thoughts are present in every situation and some managers cannot control these tensions and share them with others and some others although have positive attitude of these tensions and know these concerns because of their success again for making decision require others help. To make decision and choose the style of making decision dependence and using others tips manager should be powerful and be able to think correctly for choosing the best way and using the best aspects of others tips.

To making this theory clear that the relation between spontaneous decision making style and positive beliefs and confident cognitive is meaningful. The relation between uncontrollability of thoughts and danger and cognitive self-consciousness and the need to control thoughts with spontaneous decision making style is not meaningful. A manager who makes decision thoughtless in the least time is choosing spontaneous decision making style. So these managers have positive beliefs about their concerns and in emergency situations they accept their concerns. In next theory the relation between avoidance making decision style and positive beliefs about concerns, cognitive self-consciousness and cognitive-confidence is meaningful. The relation between uncontrollability of thoughts and need to control thoughts with avoidance making decision style is not meaningful. The managers who are not risky use this style and if it is possible they postpone the decision making situation. According to the results for making the theory more clear we can say that a manager may have some meta-cognitive skills such as cognitive self-consciousness and positive beliefs to make the best decision it means that he knows his concerns as a good component and also be aware of his decision completely but he avoids to make decision because of feeling risk and preference to postpone and even sometimes is dependent on others or environmental occasions makes him to postpone.

On any reason managers in all organization, especially in universities are faced with decision making situations that directly leads to success. In these situations they try to make the best decision. One of the factors that can affect decisions is the habitual patterns and the styles which managers use to decide. So the style can has effect on the quality of decision making and also on the effectiveness of organization. In addition to these habitual patterns the environmental situations can have effects on making decision or choosing the style of that. Managers who are aware of their decision and also analyze all aspects of their decision use their meta-cognitive abilities and use this skill to make best decisions. So to improve the quality of decision making especially in managers it is recommended that they improve their meta-cognitive skills and motivate themselves to improve it also hold the principle trainings and methods and criteria for decision-making as with meta-cognition they make best decision for the organization to lead it toward its goals.



## 7. References

- Alvani, M. (2007). *The Public Management* (3th Ed). Tehran: publishing Ney, Print thirtieth.
- Alagheband, A. (2011). *Preparations of educational management*, Tehran: publishing Ravan, 6th edition.
- Bryant, P. (2006). *Improving entrepreneurial education through self-regulatory skills*. NCIIA Annual Conference, Portland, USA.
- Cartwright-Hatton, S. & Wells, A. (1997). Beliefs about worry and intrusions: The Meta-cognitions Questionnaire and Its Correlates *Journal of Anxiety Disorders*, 11, 279-296.
- Dunlosky, J., Serra, M. J., Matvey, G., & Rawson, K. A. (2005). Second-order judgments about judgments of learning [Special issue]. *Journal of General Psychology*, 132, 335-346.
- Eberlin, R. (2005). *The relationship among leadership styles, decision making and organizational justice*, alliant international university.
- Eleonora, Papaleontion-Louca, (2008). *Meta-cognition and theory of mind*, Cambridge Scholars publishing, 15 Angerton Gardens, Newcastle, NE52JA, UK.
- Flavell, J. H. (1976). Meta-cognitive aspects of problem solving. In L. B. Resnick (Ed.), *The nature of intelligence*, (pp. 232). Hillsdale, NJ: Erlbaum.
- Flavell, J. H. (1979). Meta-cognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *Am Psychol*, 34, 906-11.
- Garcia-Montes, J. M., Perez-Alvarez, M., Balbuena, C. S., Garcelan, S. P. & Cangas, A. J. (2006). Metacognition in patients with hallucinations and obsessive-compulsive disorder among older adults living in the community. *Journal of Anxiety Disorder*, 13, 858-865.
- Hadizade Moghadam, A. Tehrani, M. (2008). The relationship between the general styles of decision making in public organizations, *Journal of public management*, 1, 1, Pp.123-138.
- Heidari, E. Marzoghi, R. (2011). *Survey of public decision making style in university principals*, M A Thesis, Shiraz University.
- Jafari, P. Maktabi, H. (2008). Presentation of educational management based on meta-cognition for elementary school principals, *Journal of Educational Leadership and Management*, Garmsar Islamic University, Second year, number 4, Pp.35-52.
- Juybari, A. Hanifi, F. (2012). Evaluation of faculty members' views about using meta-cognition in various aspects of university in ROUDEHEN Azad University, *Journal of researches of educational management*, 3th year, number 4, Pp.132-148.
- Kumar, Angela Ewell (1998). *The Influence of Met cognition on Managerial Hiring Decision making: Implications for Management Development*. A Thesis Submitted to the Faculty of Virginia polytechnic institute and state University for Doctor of Philosophy.
- Kleitman, Sabina; and Stankov, Lazar (2007). "Self-confidence and met cognitive processes." *Learning and Individual Differences journal*, 17(2), 161-173.
- Lawrence, T. E. (2003). *Strategic Leadership and Decision Making*. National Defense University.
- Mirkamali, M. (2009). *Leadership and management educational*, Tehran: publishing Yastroon.
- Parker, M. (2007). Maximizes versus satisfiers: Decision-making style, competence, and outcomes. *Judgment and Decision Making*, 2(6), 342-350.
- Robbins, S. P. (2009). *Organizational behavior*. Muhammad Ali's translation Parsayyan and Arabs. Tehran: Cultural Research Bureau.
- Rubbins, E. (2011). *Organization Theory*, translated by: Alvani, M.; Danaee, H, Tehran: Safar, Print 33.
- Rezazadeh, S. (2010). *The relationship between intelligence and moral decision-making styles of public managers*, Ferdowsi University of Mashhad University of Medical Sciences in 1389. MS Thesis. Ferdowsi University of Mashhad. School of Psychology and Educational Sciences.
- Scott, S. G., & Bruce, R. A. (1995). Decision-making style: The development and assessment of a new measure. *Educational and Psychological Measurement*, 55 (5), 818-831.
- Spada, M. M. Mohiyeddini, C., & Wells, A. (2008). Measuring meta-cognitions associated with emotional distress: factor structure and predictive validity of the meta-cognitions questionnaire 30. *Journal of personality and individual Differences*, 45, 238-242.
- Samsonovich, A. V. et. Al. (2008). Self-Awareness as Met cognition about own self concept Available at: <http://www.aai.org/Papers/Workshops/2008/WS-08-07/WS08-07-025.pdf>.
- Shams, G. H. (2011). *educational management*, Tehran: publishing Azar.
- Tabesh, F., Zare, H. (2012). Impact of Emotional Intelligence skills on decision making styles and rational, intuitive, avoidant, dependent, instantaneous, *Journal of Behavioral Sciences*, 6, number 4, Pp. 323-329.
- Wells, A., & Cartwright-Hatton, S. (2004). A short form of the meta-cognition questionnaire: properties of the MCQ-30. *Journal of Behaviour Research and therapy*, 42, 385-390.
- Wilson, V. B. (2010). *Examining moral reasoning and ethical decision making among Mississippi's community college administrators*: Mississippi University.

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