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The Relationship between thinking styles with organizational innovation in physical education teachers of Iran

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Abstract

Background: The present study aimed to investigate the relationship between thinking styles and organizational innovation in male physical education teachers of Iran.

Materials and Methods: The statistical population of this study was the male physical education teachers participating in the fourth special scientific tournament of 32 provinces of Iran's (N=256). Using the Morgan table, the sample equal to the 155 person of teachers estimated and randomly was selected. The thinking styles and organizational innovation questionnaires was used to data collection process. Validity of the questionnaire was obtained with correction idea of program planning and management masters of physical education and internal reliability of both questionnaires using Cronbach's alpha, respectively, 0.87 and 0.73 were determined. Method of study based on type of study was descriptive and correlation. In order to data analysis, the descriptive statistics, one sample kolmogorov-smirnov, Pearson correlation coefficient and regression statistical tests were used.

Results and Discussions: The results showed that there is a significant and positive relationship between organizational innovation and executive judgment and legislative thinking styles. Also the regression analysis showed that the executive thinking style is qualified as a expecting the organizational innovation.

Conclusion: According to the obtained results with regard to the influence of thinking style on behavior and individuals activities, it's necessary that officials with providing the necessary facilities suit to thinking style of every teacher's, make available the context for personal and organizational innovation and progression.

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Introduction

One of the crucial and important features of humans is to profit and use the thinking power. Humans because of her thinking power being able to dominate to the complex environment and her surrounding variable and can continue their life. Individuals think based on own special style on how to do things. The term style isn't synonymous with ability but is the way to apply the subject's ability (Sternberg, 1998). During the past five decades, many researchers in their research have been studied the role of thinking styles in human performance (Zhang et al., 2010).

People, based on the how their work environment has been inconsistent and consistent with their thinking style can have a stronger or weaker presence. Despite the numerous and detailed definitions of ability, the thinking style also equally and perhaps for more reasons is important of capability because the social, emotional constructions and intellectual functions and the various aspects of intelligence, to develop our notion to the sense of what people can do. But the constructions related to the thinking style, close our notion to what preferred to do (Sternberg, 2001).

Zheng (2006) is expressed since most researches has revealed that the ability and character, do not expresses everything about the individuals performance, so the thinking styles as an additional factor have been used for explaining differences in persons performance (Zheng, 2010).

Also, other studies show that thinking styles affects the decision making and key activities of entrepreneurs (Cools et al., 2008).

Familiarization with thinking styles can help people to recognize their strengths and weaknesses and understand how they can to develop its strategies in decision making and problem solving. This can decrease the wrong decisions (Zarei, 2007). One of the influential and study able things in managers is them thinking style that will be affected many aspects of managers even employees behaviors.

Thinking style of managers is important to these criteria because this person is the main components of the education system of any society and can induce and transfer their thinking style in educational environment. The thinking style so Sternberg (1997) expressed in his self-management theory, is the people preferential way in applying own capability. The main concept of these structures is that person needs a thinking style to manage or administer own everyday activities (Fan et al., 2009).

Yang and Lin (2004) Studies on Taiwanese

students showed that free thought, legislation, judgment, holistic and outward-oriented thinking styles positively correlated with creativity (Beceran et al., 2010). Khoueini (2005) in studying the relationship between thinking styles and students creativity found that there are significant relationships between the law and judgment with creativity while there is no significant relationship between the executive and creative thinking.

Also Puremami (2003) in their study showed that there are relationship between free thought and holistic thinking styles with decreased creativity. Zheng (1999) in a study about the thinking and creative styles showed that there is the significant relationship between the legislation and free thought thinking styles with creativity (Jahanshahi, 2008).

Also, according to Murphy and Janeke (2009), which are expressed to thinking styles changing by the living needs and time also there are several arguments that any of them or collection of them can be justify the contradictions observed in the mentioned studies and it is that the thinking style are not "good" or "bad", but it depends on time, homework and position (Murphy et al., 2009).

One of the organizations that have an important role in human life is the educational organizations and specially education and nurture office. The need to creative and innovative people in education and other educational centers has doubled importance because these centers have an important educational role in training committed manpower's for all organizations and offices in one country.

Shatouk (1992) and Kingel (1995) stated that Education is the area of research and innovation. Kingel (1995) believes that creative educating and nurturing is the education area and its basis is production and progression of knowledge quality. With this new approach, we can predict that in the coming decades, education will have the best place for research, creativity and innovation (Pirkhaeghi, 2004).

All communities know the education institutions the organization with creativity and innovation. Creative educations the educational areawith bases of productivity and knowledge quality improvement (McIntyre, 2004).

Zhang (2002) in the study concluded that there are significant relationship between thinking style and creativity. Tavangar (2005), Zarei (2007), Emamipoor (2004), Saif Hashemi (2005), Zaki (2002) demonstrated the significant relationship between thinking styles and organizational innovation.

Keshtkaran and colleagues (2008) found that there

is positive relationship between leadership style and organizational innovations and Pragmatic thinking style are the most concerned with organizational innovation.

Saifand Emamipoor (2003) concluded that there is significant relationship between thinking style with creativity, So that the free taught style has the relationship with creativity increasing and also there is this relationship between the conservative thinking styles with a reduction in creativity. Polities (2005) in their study showed that thinking style could be affecting the creativity growth.

Haghighatjooand colleagues (2009) results suggest that there is relationship between legislation thinking style and entrepreneurship. On the other hand wasn't observed significant relationships between the executive and judgment thinking styles with entrepreneurship.

With description of the background investigation done in this area and due to the lack of research in this field in Iran, the researchers sought to answer this question that are the significant relationship between thinking styles and organizational innovation in male physical education teachers? Are the dimensions of thinking style qualified for the prediction of organizational innovation? It is hoped based on this study results be offered the scientific and practical solutions in order to create innovation between the male physical education teachers.

Materials and Methods

Method of study based on the type of study was descriptive and correlation. The statistical population of this study was the male physical education teachers participating in the fourth special scientific tournament of 32 provinces of Iran's (N=256). Using the Morgan table, the sample equal to the 155 person of teachers estimated and randomly was selected.

In order to data collecting, two questionnaires as follows were used:

1-Sternberg & Wagner, Thinking Styles Questionnaire (1991): This questionnaire is about the different strategies and ways people use to solve problems, to carry out tasks or projects, and to make decisions. A functional part of this questionnaire included 24 questions. Questions are Five-choice and include options for very low, low, average, high and very high and scoring was 1, 2, 3, 4, and 5 respectively.

2- The Omid and coworkers (2002) organizational innovation questionnaire that includes 22 questions. Questions are Five-choice and include options for totally disagree, disagree, no opinion, agree, totally agree and scores was 0, 1, 2, 3, 4 respectively. Validity of the questionnaire was obtained with correction idea of program planning and management masters of physical education and internal reliability of both questionnaires using Cronbach's alpha, respectively, 0.87 and 0.73 were determined. In order to data analysis, the descriptive statistics, one sample kolmogorov- smirnov, Pearson correlation coefficient and regression statistical tests were used in SPSS statistical program and meaningful level of $P \leq 0.05$.

Results and Discussions

Based on the study results, from 155 teachers participating in present study, the mean age of 46 subjects (29.72 percent) was ranged 20-30 years, 58 subjects (37.4 percent) ranged 30-40 years, 48 subjects (31 percent) ranged 40-50 years and 3 subjects (1.9 percent) was above the 50 years old. From the total of 155 examined samples, 106 cases (68.4 percent) were formally and 49 cases (31.6 percent) were working as a contract Employee. The number of teachers who had less than 5 years of work experience, 43 cases (27.7 percent) was between 5 to 10 years, 19 cases (12.3 percent) was between 10 to 15 years, 24 cases (15.5 percent) was between 15 to 20 years, 29 cases patients (18.7 percent) and those above 20 years was between 40 cases (25.8 percent) respectively.

The Kolmogorov- Smirnov non parametric test were used for data normality testing that results provided in table 1.

Table 1. Kolmogorov- Smirnov test results

Variables	N	Z	Sig	Test result
Thinking style	155	0.881	0.42	Data
Organizational innovation		1.13	0.152	distribution is normal

Results of table 2 revealed that there are significant and positive relationship between executive ($r=0.248$, $P=0.002$), judgment ($r=0.496$, $P \leq 0.001$) and legislation ($r=0.556$, $P \leq 0.001$) thinking styles with organizational innovation.

Table 2. Correlation coefficient between thinking styles with organizational innovation

Variable	Index	Leadership styles		
		Executive thinking style	judgment thinking style	Legislation thinking style
organizational innovation	Pearson correlation coefficient	0.248	0.496	0.556
	Sig	0.002	0.001	0.001
	N	155		

Based on table 3 for Durbin–Watson test, the revealed results confirmed the using of regression test. Based on the obtained determination coefficient

from the test output, only 0.068 of the organizational innovation variations by thinking style could to explain in model.

Table 3. Results of Durbin–Watson test for Independence of errors

model	R Square	Regulated R Square	S.td	Sig	Durbin–Watson
1	0.068	0.049	7.78	0.01	1.86

Based on table 4 results, there was the significant linear relationship between variables in the

meaningful test of regression equation (P=0.015).

Table 4. Significant linear relationship testing in regression equation

	Sum of squares	df	Mean squares	F	Sig
Regression	658.061	3	219.35	3.623	0.015
Residual	9080.77	151	60.53		
Total	9738.87	154		

According to the results in Table 5, regression equation results show that executive thinking style (t=1.93, P=0.05) are eligible for prediction of organizational innovation. Based on results of standardized beta coefficient, for per unit increase in executive thinking style, the institutional innovation 0.198 unit will increase.

Thus based on the t values and significance level, assumption of coefficient equal with zero is rejected and should be retained the mentioned B coefficient in regression equation. Therefore the regression equation is as follows:

$$Y=54.23+0.326 \text{ (Executive thinking style)}.$$

Table 5: The significant variable in multiple regressions

	Non-standard coefficient		Standard coefficient	t	Sig
	B	S.E	B		
Constant	54.23	5.281	-----	10.26	0.001
Executive thinking style	0.326	0.168	0.198	1.93	0.05
Legislative thinking style	0.134	0.14	0.088	0.961	0.33
judgment thinking style	0.020	0.181	0.011	0.11	0.91

Conclusion

Due to the importance of thinking styles to create innovation, in this study the relationship between thinking styles and organizational innovation of male physical education teacher in Iran were studied. The

results showed that the highest score was related to legislation thinking style with a mean of 31.74± 4.21.

Improvement in legislation thinking style between all physical education teachers could be very importuning educational and cultural program planning. With providing necessary facilities for

nurture and flourishing the talents and potential innovation in these teachers that are a large part of our society not only can rescue these susceptible population from many educational problems but also can with their help create great evolution in sports education.

Obtained results of hypothesis analysis showed that There was a positive and significant relationship between the executive thinking style and organizational innovation ($r=0.248$, $p=0.002$). In this regard, Sternberg (1997) has stated that the executive thinking style is popular in educational environment because the executives do everything said to them and the tasks associated with cordiality. On the other hand Khoueini (2005) stated that there is no meaningful relationship between the creative and executive thinking style. Regression analysis showed that executive thinking style is predictor of organizational innovation. It seems the teachers that in their work tend to follow the existing rules and regulations and issues that have previously been analyzed and have planned are more successful in innovation. In fact, people with executive thinking style tend to follow the rules and regulations and do assume projects are previously planned and organized. Seems to be if physical education teachers in the educational environment use this style of thinking can be more innovative and have a greater impact on student learning in athletic skill.

Executive thinking style in educational environment is usually welcomed by the teachers, because they be notified to What they should do. Therefore, teachers with the executive thinking style can take effective steps in order to create innovation.

The results showed positive and significant relationship between organizational innovation and judgments thinking styles ($r=0.496$, $p\leq 0.001$). In this regard Khoueini (2005) found a positive and significant relationship between judgments thinking styles and innovation. Also, Yang and Lin (2004) style reported a significant relationship between judgments thinking styles and innovation (Beceran et al., 2010). Teachers that using judgment thinking style tends to assess the laws and programs. They put issues in priority of their work that has capability of analyzing and evaluating ideas and current affairs. These teachers are willing to judge structure and content of own works and have constant review and evaluation of others and assess stages of works that it would be cause of innovation among them.

Other findings of this study is that there is a positive and significant relationship between legislation and organizational innovation thinking styles ($r=0.556$, $p\leq 0.001$). Sternberg is expressed that legislation thinking style actually causes the creativity among the people. Yang and Lin (2004) in research

on Taiwanese students reported that there is a positive and significant relationship between legislation thinking style and creativity (Beceran et al., 2010).

Khoueini (2005) showed a significant relationship between legislation thinking style and creativity.

Zheng (1999) in cross-cultural research about thinking styles and creativity concluded that there is a significant relationship between legislation thinking style and creativity (Jahanshahi, 2008). Teachers who have legislation thinking style, prefer doing Issues and topics that is not structural and important than this they have the ability to create special structure in their own issues.

If explore the features and characteristics of innovative and creative individuals, reach this result that they are risk oriented, idealist, opportunity oriented, activist and scrambler people that these are factors that can be related to those with legislation thinking style. According to the obtained results, with regard to the influence of thinking style on behavior and issues of individuals, it is necessary that Iranian officials of education ministry providing proportionate facilities with thinking style of each teacher and prepare context for improvement and personal and organizational innovation. According to Sternberg theory that there is no good or bad styles and thinking styles are only preferential method to using their abilities, teachers that are in environments that are consistent with their style of thinking, work better than in environments that are not consistent with their style of thinking.

Due to that the style of thinking and innovation among teachers have the educational aspect and family and educational environment have important role in shaping them so familiarizing physical education teachers with thinking style can create and modify thinking style in different conditions. Other offer of this study is notifying of Physical education teachers is one of the thinking style. Because if it was necessary the teachers can review their thinking style and provide conditions to create more innovation in their work. Also physical education teachers should try to tent creativity and innovation strategies that are appropriate to style of thinking.

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References

- Ahanshahi N, (2008). Thinking style in education, 1st pub, Kerman: Vadiat Publications. [In Persian].
- Beceran B.O, Ozdemir A.A, (2010). The

comparison of prospective preschool teachers' thinking styles and intelligence types, *Procedia-Social and Behavioral Sciences*, Vol.2 (2), PP: 2131-2136.

Cools E, Broeck H.V, (2008). The Hunt for the heffalump continues: can trait and cognitive characteristic predict entrepreneurial orientation? *Journal of Small Business Strategy*, Vol.18 (2), PP: 23-41.

Emamipour S, Seif A, (2004). Survey about thinking styles in high school and university students and their relationships with creativity and educational progression, *Quarterly Journal of educational innovations*, PP: 30-35.

Emamipour S, Seif A.A, (2003). Developmental review of thinking styles in school children's and student and their relation to creativity and achievement, *Journal of Educational Innovation*, Vol.3, PP: 35-56.

Fan W, Zhang L.F, (2009). Are achievement motivation and thinking styles related? A visit among Chinese university students, *Learning and Individual Differences*, Vol.19 (2), PP: 299-303.

Haghighatjoo Z, Shafigh poor M R, Soltani M R, Ansari A, Haghighatjoo Z, (2009). *Journal of Urmia Nursing and Midwifery*, Vol.VII, No.I, PP: 13-20.

Keshtkar A, Mohabati F, Roshanfard A, (2008). Study the relationship between thinking styles and organizational innovation in administrator and middle level managers in Shiraz educational hospitals.

Khoueini F, (2005). Study the relationship between thinking styles and creativity in students. *Journal of Management*, Second Year, No.5, PP: 72-77.

McIntyreM, (2004). A study to determine the relationship between principal leadership style and school climate as perceived by teachers in middle school in two military communities, PhD, Capellauniversity.

Murphy A, Janeke H.C, (2009). The relationship between thinking styles and emotional intelligence: an exploratory study, *South African Journal of Psychology*, Vol.39(3), PP:357-375.

Polities J.D, (2005). Dispersed leadership predictor of the Work environment for Creativity and Productivity, *Journal of Management*, Vol.8, PP:18-23.

Pourkhaeghi A, (2004). Attentional deficit factors of the creativity in universities and ways for improving them. *Creativity and Innovation Journal*, No. 7.

Robert J. Sternberg, (2001). Thinking styles, translation by Khosravi and Ahari. Tehran, Dadar publications, [In Persian].

SeifHashemi H, (2005). Relationship between Philosophic mind and managers creativity in Esfahan high schools managers, *Quarterly Journal of Teaching and Education*, Vol.77 (1), PP:31-36.

Sternberg R.J, (1998). Mental self-government, A theory of intellectual styles and Their development. *Human Development*, PP:197-198.

TavangarMarvasti Z, (2005). Study of analytical relationship between thinking styles and managements performance in Shiraz high school managers. Requirements for the Degree of MSc Educational management, Shiraz university.

Zaki M, (2002). Study about the role of characteristically, organizational and social factors in educational manager's innovation, *Quarterly Journal of Rahyaft*, PP: 21-25.

Zarei A, (2007). Study of relationship between thinking styles organizational innovation in Shiraz school managers, Dissertation Msc of management, Shiraz University.

Zhang L.F, He F.H, (2011). Thinking Styles and the Eriksonian Stages, *Journal of Adult Development*, Vol.18, No1, PP:8-17.

Zhang L. F, (2010). Further investigating thinking styles and psychosocial development in the Chinese higher education context, *Learning and Individual Differences*, Vol.20, PP:593-603.

Zhang L, (2002). Thinking Styles and Modes of Thinking: Implications for Educations and Research. *Journal Psycho May*; Vol.136 (3), PP:2 45-261.