

The Relation between Managers Skills and Multiple Intelligences in Tehran High Schools

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Abstract: This paper aims at investigating the relation between managers' multiple intelligences and their skills and explaining the relation between Gardner multiple intelligences (verbal, visual, mathematical, musical, bodily, interpersonal and intrapersonal intelligences) and the managers' technical, human and conceptual skills. The present paper is a descriptive correlational research. The statistical universe comprises all managers and teachers of public high schools in Tehran. Among 19 districts of Tehran, districts 2, 11 and 16 were selected randomly and among these districts, 60 managers (32 female and 28 male) and 300 teachers (160 female and 140 male) were selected via stratified – relative random sampling as per Morgan table. Data pertaining to multiple intelligences and managers skills were respectively collected through Gardner multiple intelligence questionnaire and interview- administrated questionnaire. The coefficients of Cronbach's alpha for multiple intelligences questionnaire and skills questionnaire are 0.89 and 0.93, respectively. The results of research analyzed via Pearson correlation test and T-test reveal that there is a significant relation between all multiple intelligences dimensions, except for verbal intelligence and intrapersonal intelligence, and the managers' technical skills. There is a significant relation between all multiple intelligences dimensions, except for bodily-kinesthetic intelligence, and the managers' human skills. There is a significant relation among all multiple intelligences dimensions, except for bodily-kinesthetic intelligence and spatial-visual intelligence, and the managers' conceptual skills. Also there is no significant relation among the managers' gender and their human and conceptual skills, and there is only a significant relation between technical skills and gender, that is, technical skills of female managers are higher than male managers. No significant relation was seen between managers multiple intelligences dimensions and gender.

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1. Introduction

Education as one of the most sophisticated systems plays a substantial role in the society affairs and its continuity and survival. Indeed, scientific and cultural development of any society is dependent upon the education. Here, educational managers play an important role as a part of educational system. Educational system will no doubt enjoy high effectiveness, efficiency and validity if educational managers possess sufficient knowledge and skills (Mirkamali, 2006). Comprehensive development of educational organizations has made twofold the necessity of employing skillful and capable managers to enjoy professional knowledge and experiences. These managers influence the whole society orientation by affecting other professions education directly (Behrangi, 2010). Since managers require a range of skills to be efficient, various theories have been provided as regards skills, and each one has raised some traits as the essential skills required by managers. Skill is, in fact, regarded as the person continuous capability to do a task quickly and accurately. Managerial skills comprise the ones by which a person makes the movement of a complex components feasible so as to reach a balanced

movement of all components towards the determined objectives (Tutunchian, 2003). Scholars such as Katz (1974), Robbins (2000) and Griffin (1987) have respectively referred to technical – conceptual – human skills, political and special skills, and diagnostic and analytical skills. For years, the skills raised by Katz (1974) who classified a manager required skills in three scopes of technical skills, human skills and conceptual skills, have been considered by authors and experts in management, particularly general management literature. George and Jones (2009) have defined human – technical – conceptual skills as below:

- a. Technical skills comprise the scope of particular knowledge or profession.
- b. Human skills comprise capability of understanding change and control of individual and group behaviors.
- c. Conceptual skills comprise the capability of analyzing situation and identifying cause and effect of matters and events. These skills are frequently achievable through formal education, experience and thinking (George and Jones, 2009). In the contemporary era, learning skills, emotional intelligence, etc. are studying and

developing (Alagheband, 2009). Although managers' skills have been categorized in various ways, three skills provided by Alagheband (2008) namely technical skills, conceptual and human relations, according to Katz, embrace all extant classifications. Besides skill, managers require another important factor which helps them to undertake an effective and efficient management, that is, intelligence. Theoretically speaking, there is a great deal of reasons that intelligence is related to leadership. As per a comprehensive study, Hunter & Schmidt (1998) reported that intelligence is one of the best predictors in professional performance, the relation between intelligence and performance is very strong for complicated professions, and consequently intelligent leaders are more effective. The French psychologist and developer of the first intelligence test, Alfred Binet (1857-1911), defined intelligence as the person capability in judgment, conception and argument. Also Hamidzadeh (2007) regards it as the representation of humans' specific potentials and claims that human brilliance, wisdom, conception and analysis are measured based on intelligence. Wisdom is brought forth by intelligence, and to the extent that wisdom is grown, the level of reason, knowledge and intellect are improved. Although a unique and integrated intelligence cannot be found in individuals, a wide range of them that are both independent and distinctive can be observed. Then Harvard Gardner provided a new definition for intelligence and pointed to at least seven main intelligences. This theory opened a new window for education authorities. He believes that intelligence is not a measurable quantity; he added eighth and ninth intelligence in 1999. According to Gardner, all individuals possess all types of intelligences with different ratios, and in the learning process all types of intelligences work as the complimentary element of one another. Multiple intelligences consist of: verbal intelligence, logical-mathematical intelligence, visual-spatial intelligence, bodily-kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, naturalistic intelligence, existential intelligence (Gardner, 2003; Gardner, 1983). Regarding multiple intelligences in managers, Sadeghi (2008) research demonstrated that there is a relation between leadership style of high schools managers and their multiple intelligences, and effective and efficient managers possess high intelligence. Also Wilson (2010) in a paper as

regards the relation of multiple intelligences and leadership, pointed out that multiple intelligence applies salient concepts for efficiency, selection, education and progress of leaders; intelligence and potential contribute to the effective leadership, and effective leaders enjoy multiple types of intelligence. He noted that adjusting managers' skills and playing the right role are among challenges addressed by theory of multiple intelligences. So with regard to the role of multiple intelligences and skills in management and their impact on the performance of educational managers, this paper seeks to determine whether there is a relation between multiple intelligences of educational managers and applying management skills by them.

2. Materials and Methods

2.1 Research Questions

- 1) Is there any relation between each dimension of multiple intelligences and technical skills of managers in Tehran high schools?
- 2) Is there any relation between each dimension of multiple intelligences and human skills of managers in Tehran high schools?
- 3) Is there any relation between each dimension of multiple intelligences and conceptual skills of managers in Tehran high schools?
- 4) Is there any significant difference among managers multiple intelligences in terms of managers' gender?

2.2 Research Method

This paper is a descriptive correlational research.

2.3 Statistical Universe and Samples

Statistical universe of this paper comprises all managers and teachers of public high schools in Tehran. Samples were selected through random stratified multi-stage cluster method; that is, first 19 districts of Tehran were divided into three areas of north, center and south, then from each area, one district was selected by using simple random sampling (districts 2, 11, and 16). With regard to Morgan table, samples consist of 59 managers and 291 teachers. Finally for making the ratio of managers to teacher equal to 1 to 5, 60 managers (32 female and 28 male) were selected via a stratified – relative random sampling, and 300 teachers (160 female and 140 male) were selected through using simple random sampling.

2.4 Data Collection Method and Instrument

Two questionnaires have been applied for data collection. One of them is interview-administrated questionnaire for managers three skills which consists of 50 questions regarding managers technical, human and conceptual skills; this

questionnaire has been rated based on Likert rating and distributed among teachers. Its questions relate to human skills (19 questions), conceptual skills (17 questions) and technical skills (14 questions). The other is Gardner multiple intelligences standard questionnaire (1983) which includes 106 questions classified in 7 parts: musical intelligence (14 questions), logical- mathematical intelligence (17 questions), verbal intelligence (20 questions), interpersonal intelligence (18 questions), intrapersonal (9 questions) and visual- spatial intelligence (15 questions). This questionnaire has been rated based on Likert rating and distributed among managers. To determine validity, content validity and face validity have been applied, such that, the questionnaires have been submitted to 10 relevant experts and have been applied after undertaking necessary modifications and obtaining final confirmation. Cronbach's alpha coefficient has been used to determine the questionnaires reliability. This coefficient was reported 0.89 for multiple intelligences scale and 0.93 for managers' skills scale,

indicating proper reliability of the measurement instruments. Data obtained from questionnaires completed via SPSS 14 software, were analyzed through using Pearson correlation coefficient statistical test and T-test.

3. Research Findings

3.1 First Question

Is there any relation between each dimension of multiple intelligences and technical skills of managers?

with respect to the results provided in Table 1, one can claim that the highest correlation coefficients between multiple intelligences and managers technical skills belong to visual- spatial intelligence ($R=0.80$) and bodily- kinesthetic intelligence ($R=0.74$), which are significant at the alpha level of 0.05. Regarding logical- mathematical, musical and interpersonal intelligences, the relation is weak; and there is no significant relation among verbal intelligence and intrapersonal intelligence and managers technical skills.

Table 1- The Relation between each dimension of multiple intelligences and technical skills of managers

Technical skills and multiple intelligences	Significance Level	Correlation coefficient
Verbal intelligence	0.27	0.11
Logical- mathematical intelligence	0.001	0.32
Spatial- visual intelligence	0.00	0.80
Musical intelligence	0.01	0.23
Bodily- kinesthetic intelligence	0.00	0.74
Intrapersonal intelligence	0.121	0.15
Interpersonal intelligence	0.008	0.26

3.2 Second Question

Is there any relation between each dimension of multiple intelligences and human skills of managers?

As per results presented in Table 2, one can state that the highest correlation coefficients between multiple intelligences and managers human skills belong to verbal intelligence ($R=0.92$), musical

intelligence ($R=0.70$), and intrapersonal intelligence ($R=0.87$) which are significant at the alpha level of 0.05. Regarding logical- mathematical, visual- spatial and interpersonal intelligences, the relation is weak; and there is no significant relation among bodily- kinesthetic intelligence and interpersonal intelligence and managers human skills.

Table 2- The Relation between each dimension of multiple intelligences and human skills of managers

Technical skills and multiple intelligences	Significance Level	Correlation Coefficient
Verbal intelligence	0.92	0.00
Logical- mathematical intelligence	0.27	0.005
Spatial- visual intelligence	0.25	0.01
Musical intelligence	0.70	0.00
Bodily- kinesthetic intelligence	0.83	-0.02
Intrapersonal intelligence	0.00	0.87
Interpersonal intelligence	0.05	0.19

3.3 Third Question

Is there any relation between each dimension of multiple intelligences and conceptual skills of managers?

The results presented in Table 3 reveal that the highest correlation coefficients between multiple intelligences and managers conceptual skills belong to logical- mathematical intelligence ($R = 0.68$) and interpersonal intelligence ($R = 0.66$), which are significant at the alpha level of 0.05. Regarding

verbal, musical and intrapersonal intelligences, the relation is weak; and there is no significant relation among visual- spatial intelligence and bodily-kinesthetic intelligence and managers conceptual skills.

Table 3- The Relation between each dimension of multiple intelligences and conceptual skills of managers

Technical skills and multiple intelligences	Significance Level	Correlation Coefficient
Verbal intelligence	0.002	0.30
Logical- mathematical intelligence	0.00	0.68
Spatial- visual intelligence	0.08	0.17
Musical intelligence	0.03	0.21
Bodily- kinesthetic intelligence	0.06	0.18
Intrapersonal intelligence	0.00	0.20
Interpersonal intelligence	0.00	0.66

3.4. Fourth Question

Is there any significant difference among managers' three skills in terms of gender?

The results of T-test presented in Table 4 reflect that there is no significant difference between human skills and conceptual skills in terms of gender.

Whereas regarding technical skills at the alpha level of 0.05, there is a significant difference between female and male managers. That is, female managers enjoy higher technical skills compared with male managers.

Table 4- Managers' three skills in terms of gender

Variable	Male managers		Female managers		T	Significance level (p)
	Mean	Standard deviation	Mean	Standard deviation		
Technical skill	2.41	0.74	2.63	0.67	1.982	0.05*
Human skill	2.35	0.87	2.51	0.68	1.253	0.21
Conceptual skill	2.39	0.76	2.58	0.65	1.732	0.08

3.5. Fifth Question

Is there any significant difference among managers' multiple intelligences in terms of gender?

As per Table 5, there is no significant difference among managers' multiple intelligences in

terms of gender. In other words, with regard to the alpha level of 0.05, t ranges from 0.08 to 1.87 and it is smaller than crucial t , thus there is no significant difference.

Table 5- Managers' multiple intelligences in terms of gender

Variable	Male managers		Female managers		T	Significance level (p)
	Mean	Standard deviation	Mean	Standard deviation		
Verbal intelligence	2.5	0.61	2.68	0.61	1.91	0.06
Logical- mathematical intelligence	2.61	0.71	2.71	0.75	0.86	0.4
Spatial- visual intelligence	2.59	0.84	2.8	0.72	1.74	0.08
Musical intelligence	2.65	0.56	2.78	0.65	1.35	0.17
Bodily- kinesthetic intelligence	2.66	0.62	25.86	0.7	1.87	0.06
Intrapersonal intelligence	2.62	0.61	2.61	0.69	0.08	0.9
Interpersonal intelligence	2.93	0.77	3	0.89	0.52	0.6

4. Discussion and Conclusions

In inferential statistics section, the results attained from Pearson correlation test revealed that there is a significant relation among all dimensions of

multiple intelligences, except for verbal intelligence and intrapersonal intelligence, and technical skills of managers. One of the skills that guarantee position of school managers is technical skill. Technical skills

are resulted from education and experience. Visual-spatial and bodily-kinesthetic intelligences with the highest correlation coefficients have a strong significant relation with technical skills. That is, managers with extensive visual-spatial and bodily-kinesthetic intelligences are more capable in timely preparing and implementing weakly lesson programs, dividing classes, employing teachers for different lessons, guiding and monitoring teachers' trainings.

Pearson correlation test results revealed that there is a significant relation between all dimensions of multiple intelligences, except for bodily-kinesthetic intelligence, and human skills of managers. Verbal intelligence, intrapersonal intelligence and musical intelligence have a strong relation with human skills. One of the skills a school manager must achieve is the skill of working with humans. For an educational manager to be regarded as an effective member of educational environment and create cooperation and understanding among members under his leadership, he must enjoy human skills sufficiently. Managers who have higher verbal, musical and intrapersonal intelligences are more capable in building effective human relations among teachers. According to Lovi (2007), the highest rank of skills for managers are first building relations, second possessing strong relational skills and third realizing evaluated objectives. It must be underscored that although school management is an operational rather than an executive task, the environment of the school manager activity is a human environment more than anything else in which interaction and human relations are determinant more than any other factor. It suggests managers need to develop and modify managerial skills training programs particularly human skills which must be considered by related authorities.

Pearson correlation test results depicted that there is a significant relation between all dimensions of multiple intelligences, except for bodily-kinesthetic and spatial-visual intelligences, and conceptual skills of managers. There is a significant relation among logical-mathematical and interpersonal intelligences and conceptual skills with the highest correlation coefficient. Managers cannot undertake their tasks properly unless they have a thorough perception of environmental, economic, technological, political and moral factors which will influence the performance. Through conceptual skill, school managers take decisions relating to educational components with minimum mistake, understand details of management better, and build a proper and reasonable combination of educational factors. Managers who have logical-mathematical and interpersonal intelligences in a more extensive level are more capable in taking rational decisions,

doing affairs with discipline and evaluating efficiency of programs. Multiple intelligence is a matter of great magnitude in the third millennium. So with regard to the relation between multiple intelligence and managers skills, it is recommended to focus on the relation between multiple intelligence and leadership in selecting and training educational managers.

T-test results revealed that there is no significant difference among managers' human and conceptual skills and their gender, and there is only a significant difference between technical skill and gender; that is, female managers' technical skill is higher than male managers. These findings are consistent with Abbassi (2006) and Majd (2001) research and inconsistent with Javaherizadeh and Charmian (2009) and Babi and Yuhanan (2005) studies.

T-test results reflected that there is no significant difference between managers' multiple intelligence dimensions and their gender. Cheng (2002) states that development of multiple intelligences is the main requisite for growing a new generation of citizens for future society in technological, economic, social, political, cultural and learning prospects.

In the end, to develop Gardner multiple intelligences, it is suggested to take proper educational and informational measures including management books and journals, meetings, and on-the-job trainings; because by developing these intelligences, managers' skills can be increased and they are made further efficient. Also with regard to the impact of multiple intelligences on managers' skills, senior managers of education ministry, when employing managers, can pay a particular attention to their intelligences and provide the stage of better and more appropriate planning.

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