

Proposing a Model for Determining the Relationship Between Academic Fascinations, Academic Satisfaction with Students' Achievement Based on Mediation of Educational Efforts

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Abstract: The present study aims at determining the relationship between academic fascination, academic satisfaction and educational efforts with the students' achievement in smart schools. The research method is correlational-descriptive. The population of the study includes all of the smart school teachers in Tehran in the academic year of 2011-2012. For sampling, a two-staged cluster randomization method was used. The instrument of the study is of two kinds: 1. Three researcher-made questionnaires including: the researcher-made questionnaire of students' academic fascination ($\alpha=.93$), the researcher-made questionnaire of students' academic satisfaction ($\alpha= 0.89$) and the researcher-made questionnaire of educational efforts ($\alpha= 0.95$). 2. The comparison of the students' scores mean during two successive terms in achievement tests. In general, the results of the study indicated that all of the studied variables had significant effect on the students' achievement in smart schools. The most effective relation was by the expressed academic interest with the amount of (0.26) and satisfaction with the teacher by (0.24) and also educational efforts by the amount of (0.28) are the next ones which had the most effect on the students' achievement in smart schools. The effect of the stated academic interest on achievement was (0.14) and its effect on educational efforts was (0.21) which is not significant based on the $t=1.96$. According to the above Table, GFI= 0.96, RMR= 0.087, P(value) = 0.000, df = 3 that shows the desirable fitness of the model.

Key words: Academic fascination • Academic satisfaction • Educational efforts • Students' achievement

INTRODUCTION

Because smart schools are resultant of the exploitation of information and relation technology in teaching-learning process and because students and even their families are encountered by a kind of doubt and hesitation in enrolling at these schools; therefore, attention to the students' achievement in smart schools is of great importance. Control and management in a smart school is based on computer and network technology and the major part of its material is electronic and its evaluation and administration system is smart (electronic) too. Smart school is "student-centered" and teacher plays the role of an instructor. Students have access to the existing resources in the school as well as outer informative networks and they are free in using the resources for their lessons. They use two kinds of

materials: electronic material and the material (content) which the teacher provides. The conducted studies indicated that factors such as academic fascination, academic satisfaction and educational efforts have significant effects on the students' achievement. [1, 2] indicated that academic fascination in the form of academic interest could be analyzed [3]. Academic interest of the students could be explored in different ways such as the expressed interest by the students, the stated interest, the tested interest and finally the listed interest. Therefore, as far as the different aspects of the mentioned academic interest about the students have a high correlation, it implies that they have academic fascination to some extent. Therefore, by academic fascination in the present article we mean the maximum stated, expressed, tested and listed interest. Another concept which is related to the academic interest, or in other words, with

other aspects of the academic interest is academic satisfaction. Academic satisfaction includes the learner's reaction from a cognitive, emotional and behavioral aspect in relation to the subject that should be studied and learned [4]. Academic satisfaction leads to educational efforts. Educational efforts could be explained by activity theory which has been studied in Hooman [5] regarding to prediction of achievement. Aminzadeh and Sarmad [4] indicated that extracurricular activities have an important role in achievement [5]. It should be mentioned that although designing and proposing structural models for achievement can be seen in previous studies, in cases such as [6-10], the relationships between the studied variables in these studies, such as academic fascination and academic satisfaction as pre-variables, achievement as post-variables and educational efforts as mediation variable have not been analyzed. Therefore, in the present study the relationship between them will be fitted in the form of a structural model and the amount of the studied pre-variable effects on the students' achievement has been analyzed in smart schools.

Theoretical Framework: Baykal *et al.* [11] indicated that providing the learner's satisfaction is one of the factors which is effective in growth and promotion of education centers. According to the fact that learners are the customers of the education centers, considering their ideas and expectations and giving them feedback could influence their learning condition. They believe that too much work (such as too much homework) leads to the deduction of the learner's academic satisfaction. [10] asserted that being satisfied with the learner's education causes improvement in their educational operation. Edraki *et al.* [12] came to this conclusion that there was a significant relationship between satisfaction with education and students' achievement of the nursing students. Rahmani [13] stated that there was a significant relationship between the students' attitude toward mathematics and their educational success. Bloom [9] asserted that emotional importing behavior or interest and motivation in achievement has crucial role [14]. As mentioned in Fardanesh (2004), Kohler (1983) believes that educational satisfaction refers mostly to the learning environment [15]. Herzberg believes that satisfaction as a stimulating factor can affect individual activities and operations and also causes the increase of cognition, achievement, responsibility and development for the person. Pish asserts that there is a mutual circular relationship between educational satisfaction, effort, achievement and consequences, in that the individual's

effort leads to more developments and achievements that should be obtained by him/her. Along with the obtained developments and achievements, satisfaction provides a friendly and supportive environment for the learners that would end in the increase of individual's effort and satisfaction. Therefore, according to this model, it is expected that by improvement in achievement, the educational satisfaction should be increased too. In addition, according to this mutual relationship, satisfaction with education leads to achievement. Atkinson (1980) as cited in Bahrami and Rezvan (1385) concluded that those who are in a high level from the aspect of needing achievement are more inclined to education and getting higher scores as well as participating in extracurricular programs [16]. Shah (1990) asserted that motivation in achievement has a positive and direct relationship with achievement [17]. The results of the study conducted by [18-20] indicated that there is a significant relationship between motivation in achievement and achievement. [21] observed a significant relationship between achievement and individual attitude toward education. [22] showed that the quality of teaching and academic motivation have significant relationships with achievement. The result of a study in 2010 entitled " Study of the Relationships between Perfectionism, Interest in the Major and Academic Operation in Students of Shahid Chamran and Jondishapoor Universities in Ahvaz " indicated that there was a significant and negative correlation between perfectionism and interest to the major and a significant and positive correlation between interest to the major and academic operation. The results did not support the idea of existence of a significant relationship between perfectionism and academic operation. Paut and Dyer (1993) asserted that the relationship between academic satisfaction and the source of control (internal- external) is significant between students. As [23] mentioned, studies conducted by some researches revealed that the school environment has a significant effect on the students' achievement. [24] showed that there is a significant relationship between the physical environment of the school and students academic operation. [25] pointed out that most of the behaviors which are indicative of educational interest include: insisting on doing difficult homework, hard-working or diligence for learning to the extent of being dominant and choosing homework which requires attempt. The result of the studies by [26] and [27] revealed that there is a significant relationship between the amount of hours in doing homework at home and students' academic activities with

their achievement. In a study, [28] declared that there is a significant relationship between academic activities with academic motivation of achievement and emotional intelligence.

Research Hypotheses:

- There is a significant relationship between academic fascination and students' achievement in smart schools.
- There is a significant relationship between academic satisfaction and students' achievement in smart schools.
- Educational efforts mediate the relationship between academic fascination and students' achievement in smart schools.

MATERIALS AND METHODS

The present study is a correlational-descriptive one. The population of the study is the whole of the teachers of smart schools in the nineteen regions of Tehran in 2011-2012. The method of two-staged cluster randomization was used for sampling. For collecting data, two kinds of instruments were used: 1. Three researcher made questionnaires including: the researcher-made questionnaire of students' academic fascination ($\alpha=.93$), the researcher-made questionnaire of students' academic satisfaction ($\alpha= 0.89$) and the researcher-made questionnaire of educational efforts ($\alpha= 0.95$). 2. The comparison of the mean of the students' scores

during two successive terms in achievement tests. Validity of the questionnaire was observed by the professors and specialists' views. For data analysis of the present study, multiple correlational method and structural equation model were used.

Research Findings: According to the findings of the above Table, there was a significant relationship between academic fascination and students' achievement in smart schools. Based on the beta coefficient, for each unit of the stated academic interest, the amount of students' achievement increased 72 units, for each unit of the stated academic interest there was an increase of 39 units and for each unit of increase in the listed academic interest, the amount of the students' achievement increased 24 units. The findings of the research also indicated that the stated academic interest builds 27 percent of the achievement variance, the expressed academic 52 percent, the tested academic interest 12 percent and the listed academic interest makes 46 percent of this variance.

According to the above Table, there was a significant relationship between academic satisfaction and students' achievement in smart schools. Based on the beta coefficient, for each unit of satisfaction with the school, the amount of students' achievement increased 24 units, for each unit increase of satisfaction with the teacher there was an increase of 79 units in students' achievement and for each unit increase of satisfaction with the course there was an increase of 23 units in students' achievement. Satisfaction with the school builds 27 percent of the achievement variance, satisfaction with the

Table 1: Correlation coefficient and multiple correlation coefficient square of the students' achievement prediction in smart schools based on academic fascination

	β	<i>Sted.error</i>	β_{eta}	<i>t</i>	<i>sig</i>	<i>R</i>	R^2	ΔR^2	<i>F</i>	<i>sig</i>
First stage	12.345	1.472	0.725	4.747	0.001	0.526	0.277	0.638	462.257	0.001
fixed coefficient	7.956	1.359		11.539	0.001					
stated academic interest										
Second stage	4.862	2.532	0.729	4.763	0.001	0.724	0.524	0.427	348.738	0.001
fixed coefficient	6.372	0.429	0.384	9.382	0.001					
stated academic interest	0.82	0.372		5.477	0.001					
expressed academic interest										
Third stage	0.625	0.362	0.475	0.627	0.001	0.343	0.118	0.529	3369.628	0.001
fixed coefficient	0.927	0.528	0.384	0.386	0.001					
stated academic interest	0.478	0.721	0.682	0.269	0.001					
expressed academic interest	0.529	0.364		0.391	0.001					
tested academic interest										
Fourth stage	0.427	0.592	0.482	0.327	0.001	0.679	0.461	0.394	463.783	0.001
stated fixed coefficient	0.455	0.382	0.729	0.268	0.001					
academic interest	0.623	0.622	0.489	0.34	0.001					
expressed academic interest	0.385	0.911	0.392	0.723	0.001					
tested academic interest	0.646	0.294	0.242	0.405	0.001					
listed academic interest										

Table 2: Correlation coefficient and multiple correlation coefficient square of the students' achievement prediction in smart schools based on academic satisfaction

	β	Sted.error	β_{eta}	t	sig	R	R ²	ΔR^2	F	sig
First stage fixed coefficient	13.465	1.553	0.734	5.526	0.001	0.520	0.270	0.545	352.589	0.001
satisfaction with the teacher	3.845	1.738		12.058	0.001					
Second stage fixed coefficient	8.639	2.734	0.728	4.357	0.001	0.852	0.725	0.384	389.374	0.001
Satisfaction with the school	5.246	0.242	0.627	9.126	0.001					
Satisfaction with the teacher	1.346	0.623		7.323						
Satisfaction with the school	6.674	0.825	0.239	2.895	0.001	0.262	0.932	0.868	21.456	0.001
Satisfaction with the teacher	4.852	2.293	0.784	3.467	0.001					
Satisfaction with the course	7.883	1.301	0.277	3.645	0.001					

Table 3: The relationships between variables in structural equation model

Statistical index	The relationship between the variables	Coefficient	t	Error	Sagnificance	
Educational efforts	→ achievement	0.23	3.25	0.037	+	
The stated academic interest	→ achievement	0.14	1.62	0.058	+	
The expressed academic interest	→ achievement	0.26	2.97	0.095	+	
The tested academic interest	→ achievement	0.14	4.30	0.038	+	
The listed academic interest	→ achievement	0.11	2.78	0.061	+	
Satisfaction with the school	→ achievement	0.09	2.92	0.025	+	
Satisfaction with the teacher	→ achievement	0.06	2.86	0.072	+	
Satisfaction with the course	→ achievement	0.17	6.74	0.030	+	
The Stated academic interest	→ Educational efforts	0.21	1.34	0.054	+	
The expressed academic interest	→ Educational efforts	0.04	4.02	0.023	+	
The tested academic interest	→ Educational efforts	0.010	1.23	0.062	+	
The listed academic interest	→ educational efforts	0.12	3.23	0.024	+	
Satisfaction with the school	→ educational efforts	0.19	1.59	0.013	+	
Satisfaction with the teacher	→ educational efforts	0.24	4.20	0.035	+	
Satisfaction with the course	→ educational efforts	0.18	3.07	0.052	+	
χ^2	df	P(value)	AGFI	GFI	RMR	RMSEA
252.72	3	0.000	0.89	0.96	0.087	0.654

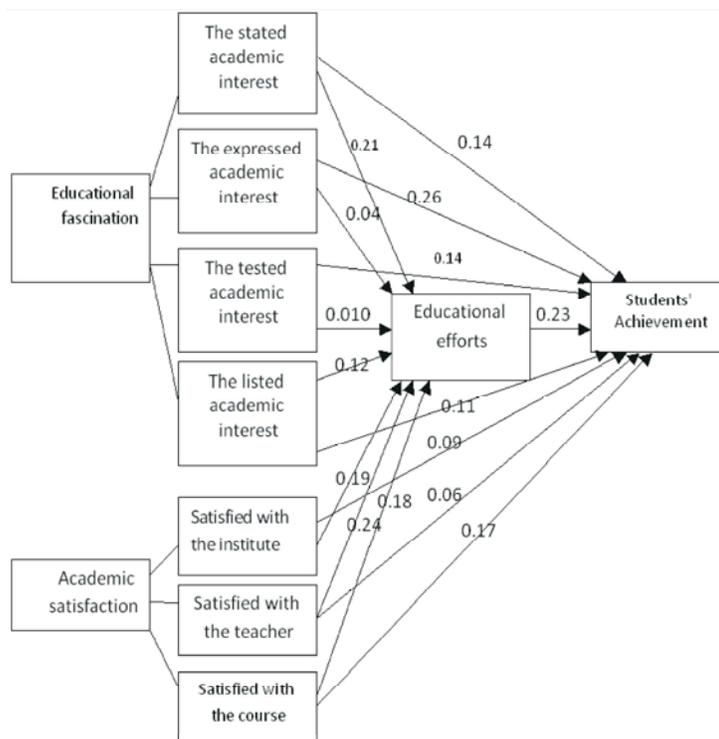


Fig. 1: The experimental model of the relationship between educational fascination and academic satisfaction with students achievement in smart schools based on mediation of educational efforts

teacher 72 percent and satisfaction with the course makes 93 percent of this variance. determining the mediation of the educational efforts on the relationship between academic fascination and academic satisfaction with the students' achievement in smart schools

The above table shows that the effect of all of the studied variables on the students' achievement in smart schools is significant. The direct effect of the expressed academic interest on achievement was 0.26, satisfaction with the teacher (0.24) and educational efforts (0.28) had the most effects on the students' achievement. The direct effect of the stated academic interest on academic development (0.14) and the effect of the stated academic interest on the educational efforts (0.21) was not significant based on the $t = 1.96$. And also the effect of the tested academic interest on educational efforts (0.009) was not significant. The indirect effect of the stated academic interest on the achievement was (0.048), the indirect effect of the expressed academic interest (0.009), the tested academic interest (0.002), the listed academic interest (0.027), satisfaction with the school (0.043), satisfaction with the teacher (0.055) and satisfaction with the course was (0.041). According to the above Table, $GFI = 0.96$, $RMR = 0.087$, $P(\text{value}) = 0.000$, $df = 3$ that shows the desirable fitness of the model.

DISCUSSION AND CONCLUSION

Noticing the students' achievement in smart schools increases the students and their parents' motivation to enter into these schools. Regarding the first hypothesis, the results of the present study indicated that there was a significant relationship between students' academic fascination and their achievement. According to beta coefficient, for one unit of the stated academic interest there was an increase of 72 units in students' achievement. For each unit of the expressed academic interest there was an increase of 84 units in the amount of students' achievement, for each unit of the tested academic interest, the students' achievement increased 39 units, for each unit of the listed academic interest, the student's achievement increased 24 units. The results also showed that the stated academic interest builds 27 percent of the achievement variance, the expressed academic interest 52 percent, the tested academic interest 12 percent and the listed academic interest made 46 percent of this variance. Concerning the second hypothesis, the results of the study indicated that the

relationship between academic satisfaction and students' achievement in smart schools was significant. Based on beta coefficient, for each unit increase in satisfaction with the school there was an increase of 24 units in students' achievement, for one unit of satisfaction with the teacher the students' achievement increased 79 units and for one unit of course satisfaction, the students' achievement had an increase of 23 units. Satisfaction with the school builds 27 percent of the achievement variance, satisfaction with the teacher 72 percent and satisfaction with the course makes 93 percent of this variance. Regarding the third hypothesis, the results indicated that the effect of the studied variables on the students' achievement in smart schools was significant. The direct effect of the expressed academic interest on academic achievement (0.26) had the most effect and satisfaction with the teacher (0.24) and educational efforts (0.28) came next with the most effect on the students' achievement in smart schools. The direct effect of the stated academic interest on achievement was (0.14) and the effect of the stated academic interest on educational efforts was (0.21) which were not significant based on $t = 1.96$. The effect of the tested academic interest on educational efforts (0.010) was not significant. The indirect effect of the stated academic interest on achievement was (0.048), the indirect effect of the expressed academic interest (0.009), the tested academic interest (0.002), the listed academic interest (0.027), satisfaction with the school (0.043), satisfaction with the teacher (0.055) and satisfaction with the course was (0.041). According to the above Table, $GFI = 0.96$, $RMR = 0.087$, $P(\text{value}) 0.000$, $df = 3$ that shows the rather desirable fitness of the model.

Future Directions: Based on the studied results suggest follow as:

- The Relationship between happiness school and Academic achievement
- The Relationship between academic interest and Academic achievement
- The Relationship between academic satisfaction and Academic achievement
- The Relationship between academic satisfaction and educational effort

Research Limitations:

- The results of this research are generalized only to the statistical community.

- The responders of this research had a hard collaboration with researcher.
- The studied model is limited to Iran by geography

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