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Predicting Motivational Beliefs and Cognitive Engagement of Traditional and Distance Education Students Based on Social Structure of Education and Environmental Perceptions

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Abstract: The main purpose of this study is predicting motivational beliefs (academic self-concept and task value) and cognitive engagement of traditional and distance education students based on social structure of education and perception of educational environments. Investigating the current differences in the field of study variables among these two groups of students also was one of this research's implicit goals. Study sample was 700 students (350 distance education students and 350 traditional students) that were chosen through multi-stage cluster sampling and answered a questionnaire including sub-scales of the task value and cognitive engagement questionnaire MSLQ of Pintrich, Smith, Garcia and Mc Catchy, Ronald's academic self-concept scale, Blackburn's class structure perception scale and researcher made questionnaire in the field of social structure of education and educational expectations. Pearson correlation coefficient, independent t-test and multiple regressions were used for analyzing data.

Key words: Academic achievement, motivational beliefs, cognitive engagement, social structure of education, environmental perception

INTRODUCTION

The study of motivation and its importance and role in educational outcomes especially academic achievement has been always paid attention by psychologists, education experts and scholars of different scientific fields. Although, the most of done researches in recent fields first investigated the effect of these factors separately but at least from 1980s the studies have been concentrated on the way of interactional effect of cognitive and motivational factors on student's academic achievement (Elaheh *et al*., 2008). Academic self-concept, task value and cognitive engagement also can be considered as cognitive-motivational variables. Task value mentions person's beliefs about amount of importance of doing a specific task to be desired; beliefs in this field that how much doing a task as desired is useful in person's achieving to future plans and goals and how much is the amount of that task's internal value for that person (Wigfield and Eccles, 2000). Moreover, personal interest can be defined as related construct with value's components. Generally, task value is defined as eagerness for engagement in educational activities and it is a construct that includes components such as achievement's importance or value, internal value, benefit or efficiency value and worth cost of one or more subject (Wigfield and Eccles, 1992). Internal value means amount of pleasure a person takes from a specific task, this component is similar to internal motivation. Efficiency value means that how much a special task is necessary and can help person for achieving his future goals and programs. Expenditure value also refers to a thing that a person should miss in order to do a task (Wigfield, 1994).

Academic self-concept also includes a collection of student's attitudes, opinions and perceptions about their educational performance (Lent *et al*., 1997). In investigating the related literature to self-concept, there are a wide range of concepts and expressions that are sometimes used instead of this concept in related passages. The concepts of words such as self-concept, the concept of self, self-image, self-perception, etc. are almost synonyms in different passages. The expression of self-concept also is used as synonym especially for self-efficiency in special fields in some studies (Super, 1990). Some researchers also considered related researches to competence perception in students with related researches to self-concept, relevant (Marsh and Yeung, 1997). Although, there are some differences among many of these constructs in terms of theory but Eccles and Wigfild (1995) in a related research

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to construct validity which they did through confirmatory factor analysis, found that different expectation constructs such as self-concept, self-ability perception and success expectation are not recognizable empirically. The obtained result of semantic similarity between the so-called concepts with various other concepts is theoretical and productive empirical literature that can be used in providing the different kinds of theoretical and empirical supports in research process.

Cognitive engagement also mentions the cognitive investments of students in their learning procedure that includes mental effort directed towards learning, using self-regulation strategies in learning and the concept of domination and desire and consent to showing necessary efforts to understand complex ideas. Cognitive engagement in different researches is conceptualized in different kinds. In most of these researches such as cognitive engagement is studied as cognitive and metacognitive strategies.

Important to note in terms of motivation-cognitive variables (academic self-concept, task value and cognitive engagement) is their relationship with educational different results such as academic achievement. Interactional effects of academic self-concept with other constructs of cognitive-motivational such as task value and cognitive engagement were supported by some researches. In this field, the results of some researches show the positive relationship between self-efficiency beliefs and cognitive engagement (Greene and Miller, 1996). Other researchers also considered student's perception from their ability moreover their performance in achievement tests, teacher's scores and reports of effort and perseverance, relevant with student's cognitive engagement. For example, Pintrich and de Groot (1990) investigated the relationship between their competence beliefs and students using of cognitive strategies such as expansion (taking notes and summarizing) and metacognitive strategies or self-regulation (planning, investigation and monitoring) in a series of correlation field studies. Their findings showed that either in high school students or MA students, competence perception higher levels have correlation with announced use of cognitive and metacognitive strategies. Other researchers also found out a similar relationship between their competence perception and cognitive engagement (Shell *et al*., 1989). The relationship of self-concept and many other expectation constructs such as competence perception and self-efficiency with task value was also noticed by some researchers. In this field, Battle (1965) showed in his research against Atkinson Model that success value and expectation have positive correlation with each other and according to encouraging worth formula their relationship is not reverse. So, it seems that students valorize some tasks which they expect to succeed in them and also expect to be successful in tasks which they consider to be important (Wigfield and Eccles, 1992).

Of course despite the existence of different empirical supports in the field of self-concept motivational beliefs effects and self-efficiency with emotional and cognitive engagement, there have been many discussions in theories and motivational researches about order of relative causal motivational beliefs with value of task and the other motivational structures such as personal interests, usefulness, importance and emotions and there hasn't been special agreement in this field yet. For example there are some researchers that say students first like tasks and then entered into it as the result of personal interest. When students are pushed into a task and get involved in it, their specialty, knowledge and skills will be developed gradually and through the development of skills, their self-efficiency beliefs will be developed. But recent researches on self-efficiency and motivation offer that there might be other ways for motivation and learning. For example, Wigfield (1994) said that student's interest and value beliefs might be developed through competence judgments. In fact people develop a sense of competence in an activity and through this develop interest and value for it. It must be said generally that although it has been shown that expectation and value have positive relationship with each other as (Wigfield and Eccles, 1992) in their most recent model in this field, we must say in this level of researches this question has been already remained without answer that which one is the reason of the other one. In other words, it isn't clear enough that kids obtain competence first in a task then start to valorize for that task or how they respect task, spend more time for that and as result because of more entertained with task, obtain competence in it.

The other point that is considerable related to cognitive-motivational variables (academic self-concept, task value and cognitive engagement) is these variables affectability from different environment features and the way of people's perception of these environments. In fact motivational models and theories which are existed these days moreover motivation cognitive determiners emphasize on an effect that personal variables have on motivational processes (Lavasani *et al*., 2011). Such these variables are learners' perception from different educational environment aspects. Perception is giving meaning to a stimulus. In another word perception is a collection of processes through that we can organize, receive and recognize emotional information from

environmental stimulus and give meaning to that. Perception of educational environments can include different aspects of educational systems. One of these aspects is student's perception form professor's educational expectations in educational processes. The meaning of professor's expectations is conclusions that he made based on his current information about students and their behavior or future success. The effect of trainer's educational expectations on academic self-concept and some cognitive-motivational variables is noticed in many different researches. Good and Berafi are two theorists that have done a lot of valuable researches in this field. In their theoretical model they draw the converting process of teacher's academic expectations to self-realization predictions and showed that how teacher's different expectations from students in educational conditions lead to different impressions of teacher with student and following that different educational results such as academic self-concept, achievement motivation and academic achievement.

In addition to the result of Good and Berafi, the trainer's educational expectation's effect on academic self-concept and some cognitive-motivational variables were supported by some internal researches. In one of these researches, Hojatollah and Mustafa (2009) investigated the relationship between teacher's behavior perception with academic self-concept and the academic performance of secondary school's students of Shiraz and their results aligning with the results of previous researchers such as Attar poor showed that there is a positive relationship between teacher's behavior perception and academic self-concept and academic performance. The related literature to the effects of perception from educational expectations on task value and cognitive engagement also has observed a lot of implicit and obvious findings. There are plenty of empirical evidences in investigating the literature of this subject that show the positive effects of teacher's educational supports on the different aspects of academic engagement such as task value and cognitive engagement (Wang and Eccles, 2013). In the most of these researches, teacher's educational expectation is also considered a kind of their educational supports. Therefor, the results of mentioned researches are a good empirical support of educational expectations on different aspects of academic engagement.

Another important educational factor that can be the subject of learner's perception is classroom's structure. Perception of the classroom structure includes the components of motivating tasks, autonomy support and mastery evaluation (Ames, 1992). In current research two components of motivating tasks and autonomy support are noticed. Student's perception from tasks not only in their learning but also is effective in how to use their time. Exposure to classroom's tasks and activities is effective in student's judgment about their abilities, effort and satisfaction. In other words activities and tasks which are various and lead to student's involvement in class tasks performance will help their learning and cause student's cooperation with each other and also make them to choose better goals for learning and understand their activity's reasons (Ames, 1992). In classes where tasks and activities are in a way that activate students in learning and notice their differences instead of emphasizing the comparison, students will believe that can do an activity with reasonable effort and will tend more to make an effort for doing tasks (Schunk, 1984). Student's perceived control and interest and challenge also are important and necessary subjects that must be considered in the structure and designing learning activities and duties. Blumenfeld (1992) discusses three important aspects of variety, challenging and significance of tasks in designing learning tasks that affect student's perception of classroom's structure. According to him there are many ways for creating variety in tasks such as using computers, cooperative learning and games. Task's variety can create great diversity and interest in students for cognitive activities in class and lead students to learn. Challenging tasks also affect in students' judgment about their abilities. Moreover, tasks must be meaningful for students to be able to create a reaction in students and if they aren't meaningful, won't motivate them. Anatomy support also is an aspect of class's structure which is related to different learning outcomes. A responsibility which teacher assigns for students in classroom in a way that lead them to independency is defined as autonomous support. Di Charms imagines class's environments as radical or instrumental prospective creators in people. Radical or instrumental imaginations are basically relevant beliefs to individual's role as a beginner or merely recipient to select and follow a certain behavior. These beliefs are created through a way that individual's distribution and autonomy power is promoted. So, when people believe that they are root and main one are more likely to involve themselves in current tasks and tend more to face challenges.

The effect of perception of class structure on task value and cognitive engagement is noticed by many researches. The results of some researches in educational environments show the relation of features such as task's challenging (Wang and Eccles, 2013), autonomy support and preventing structure (Jang *et al*., 2010) with various aspects of learner's academic engagement. Recently, Wang and Holcombe (2010) tested the relationships

among student's perception from school environment, academic achievement and engagement. Their structural equation model clarified that student's perception from school's environment (teacher's supporting autonomy and social support) affects their cognitive, emotional engagement in school also has an effect on returning student achievement. Moreover, there are some implicit evidences in the field of class's structure perception role on academic self-concept. Investigating available passages in this field shows that learning tasks that have challenge are effective on student's judgment about their abilities (Blumenfeld, 1992). The results of Wang and Eccles's researches in 2013 also showed that school structure (supportive structure, conditions of selection, relevant training and emotional support of teachers and peers) affect academic self-concept and task value and following that will influence academic engagement positively.

Social structure of education is also one of educational environment's features that has an effective role in the field of forming and growing motivational beliefs and learner's cognitive engagement. The social structure of education mentions different kinds of formal and informal interactions among present human factors in educational organizations (Amin and Hussein, 2010). There isn't any agreement relating to determining indicators of such expression among experts. By Amin and Hussein (2010) some indicators such as interactional learning, professor's interactions with students and student's interaction with each other are used as the social structure of education indicator. In present study also student's social interactions with each other, interactional learning, teacher's academic support of students, individual support of students by professors and students, individual and academic support of each other and student's interaction with each other and with professors were used as the social structure of education indicators.

Conducted researches on many social structure of education indicators have shown their outstanding effect with different aspects of academic engagement such as task value and cognitive engagement, academic self-concept and academic achievement. One of social structure aspects that have received main support in predicting mentioned educational results is student-teacher interaction.

Past studies which investigated the different aspects of this factor generally understood that the good quality of teacher-student interactions (Fraser and Fisher, 1982), academic support and supporting independency (Skinner and Belmont, 1993) and preventing structure (Jang *et al*., 2010) are positively related to people's involvement. For example, Skinner *et al*. (2008) found out that teacher's support (involvement, supporting autonomy) will increase emotional engagement positively. In another study also Skinner and Bloment (1993) found out that teacher's involvement (such as emotional support) will predict primary school's student's emotional engagement. In many of these studies, it has been shown that students get involved more in terms of behavior and emotion when they have positive relationship with their teacher, this will help them to have more academic achievement (O'Connor and McCartney, 2007). In one of empirical studies, Sagayadevan and Jeyaraj (2012) investigated the role of emotional engagement in teacher-student interactions and its effects on academic achievement results and learning in a sample of 140 BA psychology students. The results of this study showed that students who were in a good condition in terms of teacher-student interactions demonstrated higher level of academic engagement compared to students who were in a bad condition in terms of teacher-student interactions. Peer's emotional support is also important as the next title of the social structure of education for academic engagement especially during teenage hood that teenagers need belonging to a group more. Different studies have explained teenagers who have positive interactions with peers and are involved more in school activities in terms of behavior and emotion (Wentzel, 2002) and these participations are more derived from received supports and attentions from peers, teenager's need to feel the satisfaction of belonging to a group and Promoting a sense of satisfaction at school. Various empirical studies also have shown that students who experience emotional support and respect from their teachers and peers, tend more to valorize learning at school. The results of Wang and Eccles's research in 2013 also showed the outstanding effects of field on academic self-concept and the aspects of emotional academic engagement (task value). In their study they investigated the relationship of school structure (supportive structure, conditions of selection, training and emotional support of teachers and peers), achievement motivation (academic self-concept and task value) and academic engagement (cognitive, emotional and behavioral). Their findings clarified that students' perception from separate aspects of school environment affect academic engagement through academic self-concept and task value. The researchers also have shown that the teacher-student relationships are positively related to social self-concept, compatibility at school and score of school while it is related to behavioral problems such as internal behavioral problems, internal signs and academic leave negatively (O'Connor *et al*., 2011).

Generally, theoretical reflections in investigating research literature show the outstanding role of cognitive-motivational variables in the field of educational results especially academic achievement and getting effect of these variables from learner's environmental features and perception from such these environments. Research literature review also shows that among educational environments features, investigating the role of social structure of education on academic self-concept, task value and cognitive engagement has been inconspicuous. Even little studies that have been done implicitly and clearly in this field, their most of concentration was on teenager and young students whose teacher's support has been fundamental; this subject that if these field factors have the same important role among university's students who are older or not, is still unclear at literature reviews. Among different aspects of social structure of education except the aspects of student-teacher interactions and interaction with peers, the other aspects of this variable have not been paid attention a lot; the subject that if other social structure components also like the recent two aspects are related to cognitive-motivational variables or not, in investigating subject literature has been unclear and requires additional research. Moreover, there are some researches in the field of perception from class structure and its effects on some cognitive-motivational variables but in most of these researches recent variable is used more as an educational feature while perception is an individual feature that can include different aspects of educational environments. In investigating the literature of this subject also among different aspects of educational environments, the aspect of class structure compared to other educational system's aspects has been noticed more but a few studies consider perception of teacher's educational expectations with class's structure perception. In addition to what have been said, considering that distance and traditional of educational environments are totally different in many fields and noticing the motivational-cognitive of the environmental features getting influence, investigating subjects literature represents the lack of researches that investigate the relationship of considered variables in this study comparatively in two educational environments of distant and traditional education. As mentioned before, in this research, it has been tried to investigate motivational beliefs (academic self-concept and task value) and cognitive engagement of traditional and distance education students based on social structure of education, perception of class structure and perception of professor's educational expectations.

Research questions: Among variables of perception of class structure, perception of professor's educational expectations and different aspects of social structure of education which one is the most valid predictor variable in predicting motivational beliefs (academic self-concept, task value) and student's cognitive engagement?

Do variables of perception of class structure, perception of professor's educational expectations and different aspects of social structure of education predict motivational beliefs (academic self-concept, task value) and distant education and traditional student's cognitive engagement differently?

Are there any significant differences among distance education and traditional students in the field of perception of class structure, perception of professor's educational expectations and different aspects of social structure of education, motivational beliefs (academic self-concept, task value) and student's cognitive engagement?

MATERIALS AND METHODS

For doing this research considering study questions and goals in this study, correlation plans were used. In this research, the relationships among variables were investigated in the form of multi-variable regression.

Statistical population, sample and performing method: Statistical population in this research included all official entry undergraduate students from academic year 2009-2011 of Payam Noor University (PNU) centers and units of West Azerbaijan province and Tabriz University who were studying in mentioned universities during 2013-2014. A sample of 700 people from statistical population (350 PNU students and 350 students of Tabriz University) was chosen based on Morgan table and using multi-stage random clustering sampling. Considering the almost equal volume of these two statistical populations, sample volume for both two populations was considered the same. In sampling process of this research, first each one of PNU and Tabriz University are considered as separate populations. As following, the study sample was chosen through clustering method from each one of these two statistical populations; in PNU the selected clusters include 10 centers or units among nineteen centers and districts of West Azerbaijan Province which were selected randomly from 5 districts of North, South, center, East and West of this province. In next step after available BA majors among selected units and centers, some academic majors were selected as cluster appropriate with the number of available majors in them. In the last step 350 people were selected randomly for study among entry students of academic years 2009-2011. Such this process was performed for students of Tabriz University but about recent students clusters included

faculties, educational groups and educational majors. Among 22 available faculties in Tabriz University, 10 faculties were selected randomly. Then among educational groups and BA majors, a number of appropriate educational group and academic major with their volume were selected and finally among entry students of academic years 2009-2011 of these majors 350 people were selected randomly for studying. For performing this research after official correspondence with the authorities of the universities, research tools were performed among students.

Data collecting tools: In present research following questionnaires were used for collecting data:

Task value: For evaluating task value, sub-scale of the task value questionnaire MSLQ of Pintrich, Smith, Garcia and McCatchy was used. This subscale includes 6 items based on Likert scale. Internal coefficient of consistency of this questionnaire by Lavasani *et al.* (2012) research was 0.88. In current research also the reliability of this sub-scale using Cronbach's alpha in primary studies was calculated 0.85 and in final study 0.87.

Cognitive engagement: For evaluating cognitive engagement, sub-scale of the cognitive engagement questionnaire MSLQ of Pintrich was used. This subscale includes 22 items based on Likert scale. Internal coefficient of consistency of this questionnaire by Elaheh *et al.* (2008) research was 0.79. In current research also the reliability of this sub-scale using Cronbach's alpha in primary studies was calculated 0.74 and in final study 0.78.

Social structure of education: In this research, social structure includes 4 aspects of student's social interactions with professors, professor's personal and academic supports of students, student's personal and academic support of each other and student's interactions with each other. For evaluating social interactions of students with each other and with professors, used items in Ghanei Rad and Ebrahim Abadi's research in 2010 were used. Professor's personal and academic supports of students and student's individual and academic support of each other also were evaluated using "living in classroom" questionnaire by Ghaith (2002). The items of this scale were based on Likert scale. Social structure of education in this study mentioned a score that participants obtained from sub-scales and the sum of whole scale. For evaluating reliability of sub-scales and whole scale, Cronbach's alpha was used and the rate of student's social interactions with professors sub-scale's reliability was 0.83, professor's personal and academic supports of students 0.78, student's personal and academic support of each other 0.74, student's interactions with each other 0.79 and whole social structure of education of whole scale reliability was calculated as 0.84.

Academic self-concept: For evaluating academic self-concept, academic self-concept by Reyonolds (1988)'s was used. This questionnaire includes 40 items based on Likert scale that evaluates attitudes, feelings and perceptions related to academic skills. In this scale some of items were designed negatively that were scored in contrast, the positive items. Questionnaire's item's scoring was in 5 scales of absolute agreed to absolute disagreed that for absolute agree score 5 and absolute disagree score 1 was devoted. The highest score in this scale means positive self-concept. The reliability of this questionnaire using Cronbach's alpha by Reynolds *et al.* (1980)'s research in 1980 was 0.91 and in current research using the same method was calculated 0.89.

Perception of the class structure: For evaluating two aspects of perception of the class structure, motivating tasks and autonomy support sub-scale questionnaire of Black Burn was used. This questionnaire totally included 26 items and evaluates three components of motivating tasks, autonomy support and mastery evaluation. In this questionnaire, learner's answers to each one of items will be recorded on a 4 degree scale of always, most of the times, sometimes, rarely that respectively the scores of 1-4 are belonged to them. This questionnaire is used in various studies such as Elaheh *et al.* (2009) and the results show the tool's technical abilities. Reported Cronbach's alpha coefficient by Blackburn (1998) for motivating tasks sub-scale and autonomy support, respectively are 0.85 and 0.65. Elaheh *et al.* (2009) researches also reported Cronbach's alpha coefficient for motivating tasks sub-scale and autonomy support respectively are 0.71 and 0.68. In current research also using Cronbach's alpha method, the reliability of motivating tasks sub-scale was calculated as 0.75 and autonomy support sub-scale was calculated as 0.78.

Perception of professor's educational expectations: For evaluating professor's educational expectations, based on available theories in this field and using advisory opinions of professors of educational sciences, researcher made questionnaire was used. This questionnaire includes 10 items based on Likert scale and scoring that was from 1-5. The most score in this questionnaire constitutes high educational expectations. For evaluating

the validity of this questionnaire, advisory opinions of professors of educational sciences were used. The scale's reliability also was calculated through Cronbach's alpha method as 0.87 in primary stage and 0.90 in final one.

RESULTS AND DISCUSSION

First descriptive indicators (mean and standard deviation) for the whole sample (700 students) were investigated and reported in Table 1 and then considering collected data, correlation coefficients among study variables were calculated and these coefficients were presented in correlation matrix (Table 2).

Table 2 is correlation matrix of research variables. Correlation coefficients among predictor and criterion variables show the significant relationship among them and therefore necessary presumption for regression analysis was provided. In order to answer the first question of research also using a stepwise multiple regression, one equation was considered for each one of criterion variables (academic self-concept, task value and cognitive engagement) and the share of predictor's variables was analyzed that obtained results of equations are shown in Table 3.

The results of Table 3 show effective variables on predicting cognitive-motivational variables. For comparing the effects of predictor variables in regression model on criterion variables, standard coefficients are used. Standardized coefficients column shows that motivating tasks on task value and perception from professor's expectations respectively have the most effect on academic self-concept and cognitive engagement. Because for one unit change in predictor variables,

Table 1: Descriptive indicators of research variables

Statistical indicators variables	Count	Lowest score	Highest score	Mean	SD
Academic and personal support of professors	700	8	53	26.77	5.99
Academic and personal support of students	700	9	45	31.11	6.92
Teacher-student interaction	700	6	30	21.87	4.14
Student-student interaction	700	3	23	11.00	2.23
Motivating tasks	700	10	69	43.13	16.83
Autonomy support	700	5	25	17.80	3.96
Perception of the educational expectations	700	12	50	32.03	7.28
Academic self-concept	700	77	179	126.16	17.28
Task value	700	10	30	22.78	4.35
Cognitive engagement	700	16	60	42.78	5.99

Table 2: Correlation matrix of research variables

Variables	1	2	3	4	5	6	7	8	9	10
Cognitive engagement	1	-	-	-	-	-	-	-	-	-
Task value	0.34**	1	-	-	-	-	-	-	-	-
Academic self-concept	0.24**	0.30**	1	-	-	-	-	-	-	-
Perception of the educational expectations	0.34**	0.14**	0.29**	1	-	-	-	-	-	-
Autonomy support	0.29**	0.5**	0.23**	0.15**	1	-	-	-	-	-
Motivating tasks	0.26**	0.63**	0.22**	0.08*	0.49**	1	-	-	-	-
Student-student interaction	0.12**	0.12**	0.16**	0.19**	0.11**	0.08*	1	-	-	-
Teacher-student interaction	0.20**	0.55**	0.31**	0.24**	0.44**	0.46**	0.20**	1	-	-
Academic and personal support of students	0.17**	0.16**	0.15**	0.15**	0.19**	0.14**	0.32**	0.20**	1	-
Academic and personal support of professors	0.32**	0.22**	0.23**	0.35**	0.29**	0.19**	0.16**	0.32**	0.41**	1

**p<0.01; *p<0.5

Table 3: The summary of regression models, variance analysis and regression statistical features of cognitive-motivational variables

Statistical indicators variables	B	STM	β	t-values	p-values	F-values	p-values	R	R^2
Task value	-	-	-	-	-	234.848	0.000	0.738	0.545
Teacher-student interaction	0.257	0.034	0.246	7.555	0.000	-	-	-	-
Motivating tasks	0.098	0.009	0.380	11.323	0.000	-	-	-	-
Autonomy support	0.319	0.036	0.290	8.746	0.000		-	-	-
Academic self-concept	-	-	-	-	-	29.200	0.000	0.409	0.167
Perception of the educational expectations of professors	0.431	0.085	0.207	5.101	0.000	-	-	-	-
Teacher-student interaction	0.841	0.190	0.199	4.438	0.000	-	-	-	-
Motivating tasks	0.101	0.044	0.097	2.270	0.024	-	-	-	-
Academic and Personal support of professors	0.245	0.118	0.087	2.080	0.038	-	-	-	-
Cognitive engagement	-	-	-	-	-	38.698	0.000	0.456	0.208
Motivating tasks	0.052	0.015	0.148	3.519	0.000	-	-	-	-
Autonomy support	0.169	0.066	0.111	2.555	0.011	-	-	-	-
Perception of the educational expectations of professors	0.179	0.034	0.217	5.314	0.000	-	-	-	-
Academic and personal support of professors	0.181	0.042	0.182	4.327	0.000	-	-	-	-

Table 4: The summary of regression model and variance analysis of distance education student's cognitive-motivational variables

Statistical indicators variables	B	STM	β	t-values	p-values	F-values	p-values	R	R^2
Task value		-	-	-	-	106.004	0.000	0.737	0.543
Teacher-student interaction	0.251	0.045	0.261	5.549	0.000	-	-	-	-
Motivating tasks	0.111	0.012	0.464	9.506	0.000	-	-	-	-
Autonomy support	0.195	0.050	0.190	3.930	0.000	-	-	-	-
Academic self-concept	-	-	-	-	-	26.719	0.000	0.480	0.230
Academic and personal support of professors	0.380	0.166	0.283	4.996	0.000	-	-	-	-
Student-student interaction	1.485	0.484	0.173	3.067	0.002	-	-	-	-
Motivating tasks	0.295	0.067	0.240	4.393	0.000	-	-	-	-
Cognitive engagement	-	-	-	-	-	28.712	0.000	0.418	0.175
Autonomy support	0318	0.087	0.208	3.655	0.011	-	-	-	-
Academic and personal support of professors	0.315	0.057	0.315	5.534	0.000	-	-	-	-

Table 5: The summary of regression model and variance analysis of traditional student's cognitive-motivational variables

Statistical indicators variables	B	STM	β	t-values	p-values	F-values	p-values	R	R^2
Task value	-	-	-	-	-	116.964	0.000	0.725	0.525
Motivating tasks	0.109	0.011	0.397	9.516	0.000	-	-	-	-
Perception of the educational expectations of professors	0.147	0.029	0.235	5.068	0.000	-	-	-	-
Academic and personal support of professors	0.245	0.038	0.307	6.416	0.000	-	-	-	-
Cognitive engagement	-	-	-	-	-	36.965	0.000	0.509	0.259
Autonomy support	0.235	0.079	0.153	2.960	0.003	-	-	-	-
Perception of the educational expectations of professors	0.206	0.049	0.241	4.241	0.000	-	-	-	-
Academic and personal support of professors	0.236	0.052	0.259	4.490	0.000	-	-	-	-
Academic self-concept	-	-	-	-	-	28.707	0.000	0.462	0.214
Academic and personal support of professors	0.517	0.177	0.163	2.921	0.004	-	-	-	-
Academic and personal support of student	0.456	0.179	0.137	2.545	0.000	-	-	-	-
Perception of the educational expectations of professors	0.678	0.120	0.306	5.628	0.000	-	-	-	-

criterion variables of task value will change in the rate of 0.380, academic self-concept in the rate of 0.207 and cognitive engagement 0.217.

Investigating the possibility of different performances of variables of perception from professor's educational expectations, perception of class structure and different aspects of social structure of education in predicting cognitive-motivational variables (task value, academic self-concept and cognitive engagement) of distance education and traditional students of each other was the other main question of this study that variance analysis results and regression statistical characteristics in this field were presented for distance education and traditional students.

The findings of Table 4 show that among research predictor variables, motivating tasks on task value and academic and personal support of professors on academic self-concept and distance education students have the most effect because for each one unit change in predictor variables among these students, criterion variable of task value in the rate of 0.464, academic self-concept 0.283, cognitive engagement 0.315 will change. The findings of Table 5 also show that motivating tasks on task value, professor's personal and academic support on cognitive engagement and perception of professors' educational expectations on distance education student's academic self-concept have the most effect, in a way that simultaneous with one unit change in predictor variables, task value in the rate of 0.397, academic self-concept 0.306 and cognitive engagement 0.259 will change. Theoretical comparing of presented findings in Table 4 and 5 also show some common and different effects of used predictor variables in this research in predicting criterion variables, in a way that motivating tasks in predicting task value and professor's academic support are effective in predicting both groups of student's cognitive engagement. In spite of this, academic self-concept of distance education students will be predictable through professor's individual and academic support and traditional student's self-concept will be more predictable through their perception from professor's educational expectations. Table 6 also shows the possibility of available differences among distance education and traditional students in the field of considered variables in this research.

The results of Table 6 show that related to all study variables in this research there is a significant difference among distance education and traditional students. The noticeable point here is the excellence of traditional students to distance education in many studied variables in this research except motivating task, autonomy support, cognitive engagement and task value.

The goal of this research was predicting motivational beliefs and cognitive engagement of distance education and traditional students based on their perception from educational environments (class structure, professor's educational expectations) and social structure of education on one hand and investigating the existing differences in the field of study variables among these two groups of students on the other hand. The result of

Table 6: The results of independent t-test in the field of predictor and criterion variables among distance education and traditional students

	Mean		SD				
Statistical indicators variables	Distance education	Traditional education	Distance education	Traditional education	Observed t	Degrees of freedom	Significance level
Academic and personal support of professors	25.41	26.88	4.99	6.46	3.230	698	0.000
Academic and personal support of student	30.25	32.13	7.29	6.32	3.330	698	0.000
Student-student interaction	10.69	11.27	2.06	2.34	3.018	698	0.002
Teacher-student interaction	22.39	24.42	3.94	3.44	6.740	698	0.000
Motivating tasks	48.27	38.65	15.81	16.42	7.280	698	0.000
Autonomy support	19.00	16.71	3.73	3.86	7.350	698	0.000
Perception of the educational expectations of professors	29.89	33.07	8.45	8.23	4.660	698	0.000
Task value	23.18	23.13	3.81	4.17	2.590	698	0.010
Academic self-concept	127.41	134.61	15.78	19.88	4.820	698	0.000
Cognitive engagement	45.93	43.65	6.09	3.17	5.849	698	0.000

this research showed that student's perception from educational environments and also aspects of social structure of education in predicting criterion variables (task value, academic self-concept, cognitive engagement) of this research have main roles. The results of regression analysis that were performed for both two groups of students showed that student-teacher interaction, autonomy support and student's perception from motivating tasks, predict the rate of task value between two groups of students. In spite of this, recent variable has the most effect on task value in a way that with one unit change in motivating tasks, task value variable will change in the rate of 0.380. The results have also shown that despite student-teacher interaction, motivating tasks, professor's academic and personal supports have effective role in the field of predicting participant's academic self-concept, professor's educational expectations perception with β 0.207 has had the most effect on academic self-concept. Regression analysis results for both two groups showed that, professor's educational expectations perception in the field of cognitive engagement of two groups have more effect. Totally, this research results and findings in predicting student's cognitive-motivational variables based on perception variable of educational environments are supported by the results of different studies such as Hojatollah and Mustafa (2009), Wang and Eccles (2013) and Skinner and Bloment (1993). Wang and Holcombe (2010) in one of these researches investigated the relationship between student's perception from school environment, academic achievement and engagement. Their structural equation model showed that student's perception from school's environment (autonomy support and social support of teacher) affect their cognitive and emotional engagement at school and affect students in returning academic achievement. The results of Wang and Eccles (2013) research showed that school structure (protective structure, selecting conditions, relevant teaching and teacher and peers' emotional support) have affected academic self-concept and task value and following that affect academic engagement. This research findings and results also are aligned with the results of great part of researches such as Lam *et al.* (2012), Frazer and Fisher (1982), Patrick *et al.* (2007), Jang *et al.* (2010), Wentezel (2002) and Wang and Eccles (2013) where the effect of some social structure aspects on criterion variables is investigated. In many of these researches, it has been shown that students get involved more in terms of behavioral and emotional when they have positive relationship with their teachers and this will help their academic achievement (O'Connor and McCartney, 2007). In one of empirical studies, Sagayadevan and Jeyaraj (2012) investigated the role of emotional engagement in teacher-student interactions and its effects on academic achievement results and learning in a sample of 140 BA psychology students. The results of this study showed that students who were in a good condition in terms of teacher-student interactions demonstrated higher level of academic engagement compared to students who were in a bad condition in terms of teacher-student interactions. For explaining such phenomenon, self-system model of motivation development, Deci and Ryan's self-determination theory (Ryan and Deci, 2000) and also the theory of expected value provide a relevant framework in testing the path of joining many characteristics of educational structure with cognitive-motivational variables and academic achievement. Based on the theory of expected value, learners more tend to involve in learning that is more valuable and bring more trust for their educational abilities compared to people who cannot do that task. Based on this theory, when the educational expectations of teachers and trainers are appropriate with goals, educational values, growing needs and student's achievement expectation, they will be more motivated. In this research, it has also been observed that how student's perception from professor's educational expectations with other characteristics of educational environments played main role in the field of predicting task value, academic self-concept and cognitive engagement. The theory of expected-value consider the

existing differences in student's motivational beliefs deriving from some experiences that people obtained in educational system structure. Teachers create some opportunities for students in order to involve in various activities and these experiences provide students, some information about their success competence their sense of belonging for others and their autonomy and let them as a learner to perceive their personal and social identity (Wang and Eccles, 2013). This information in the field of growth and development of individual capabilities and task value perception, following that will be stacked on each other and affect students' engagement in educational activities in return. In this study also a separate regression model showed the share of predictor variable in the field of predicting cognitive-motivational variables among distance education and traditional students that despite some variables played role commonly in the field of predicting criterion variables, the share of predictor variables in predicting criterion variables of research were different in two distance education and traditional environment. In other words, researchers in this research supporting some concepts and assumptions of the theory of expected value such as motivational beliefs from field or structure; observed the different effect of distance education and traditional environment in the field of research criterion variables. Besides the theory of expected value, self-system process models and self-determination theory (Ryan and Deci, 2000), also help describing a mechanism where affect educational system's social environment, motivational and cognitive variables, Self-System Model of Motivational Development (SSMMD) claims that people have inherent need for communicating with others and effective interaction with model. Therefor social field's relationships (teacher, family and peer's support) and people self-system process (being recognized at school and perceived control) are affected through degree and the rate that social fields have meet these main needs or they neglect to satisfy them. According to the principle of Self-Determination Theory (SDT), those kinds of social context that support primary psychological needs (competence, independency and autonomy), promote motivation works through facilitating the internalization of intrinsic motivation (Ryan and Deci, 2000). Based on these two models, self-system processes are the results of dialectic communication between people's psychological needs (competence, independency and autonomy) and social context and motivational beliefs, cognitive engagement and learners progress will grow under conditions that perceive them that their educational environment satisfy competence needs, autonomy and belonging sense in them. Therefor, educational systems that promote the positive interpersonal relationships and the sense of independency in their learners and have high demanding and responding, can improve student's engagement and academic performance by providing optimal conditions that facilitate students; self-system process. The results of variance analysis and regression statistical characteristics for distance education and traditional students showed that despite of predicting cognitive-motivational variables of mentioned students, some aspects of both variables of educational environment perception and social structure of education, in this field some predictor variables act commonly and some of them differently. The results and findings of current research showed that motivating tasks have the ability of predicting task value and professor's educational and personal supports of students and cognitive engagement between both two groups of students. In spite of this, the performance of research predictor variables in predicting academic self-concept was different among two groups of students in a way that traditional student's self-concept mostly is predicted through perceiving professor's educational expectations and distance education students more through professor's academic and personal support.

The other main finding of this research is the existing of significant differences among study variables among both groups of students. In this field obtained results from independent t-test in Table 6 showed that related to all studied variables in this research there is a significant difference among studied students. The noticeable point here is the excellence of traditional students to distance education in many studied variables in this research except motivating tasks, autonomy support, cognitive engagement and task value. For explaining such these differences besides using concepts and assumptions of self-determination and value-expected models, different features of two educational systems also can be used. Distance education systems are somehow different from traditional education systems in terms of structure such as existence a gap between the teacher and learner, the main responsibility of the learner in the his learning process toward traditional ones and many other characteristics. In fact distance education system through doing some activities such as preparation of tutorial books, observance of the principles of instructional design in the preparation of curricula, the basic attention to learner's individual differences, delegating responsibility for learning on the learner and considering the role of leader for teachers in educational processes and many other characteristics provide suitable field in order to satisfying primary psychological needs (autonomy, competence and sense of belonging) of their

students compared to traditional educational environment. In investigating relevant literature to class structure, it has repetitively mentioned that on those kinds of educational environments that educational tasks are learner's interested ones and the fields of independency will be provided for learners during learning, the academic results of learners such as their motivational beliefs will be more as well. Based on this, excellence of distance education students to traditional ones in the field of dual dimensions of perception of class structure (motivating tasks and autonomy support) and cognitive engagement and task value can be attributed to the structural differences of these two educational systems. Generally obtained results and findings of this research supported getting effect of cognitive-motivational variables from various features of educational environment and above all learner's perception form these environments. Considering the interactional and constructive role of cognitive-motivational variables in improving educational results and their getting effect of educational structures, all of those involved in educational systems, including policy makers, administrators, educational planners and all trainers who wish for educational results improvement in their educational systems through promoting learner's cognitive-motivational variables are recommended to try for recognizing, analyzing and planning each kind of their revision actions for solving educational system various problems that by choosing systematic approach to keep the role of educational structure's characteristics in the creation and improvement of educational issues.

CONCLUSION

The results of this study showed that in both groups of students motivating tasks on task value and perception of professor's expectations on academic self-concept and cognitive engagement had the highest share of predictive power. Addition to predictor variable's share in predicting criterion variables was also different among both two groups; there was a significant difference in the field of all study variables among both two groups of students. Overall the results of this research besides empirical support of educational fields relationship with cognitive-motivational variables, showed the different effect of educational fields on recent fields.

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