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# The Significance of Social Capital in the Higher Agricultural Education System

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Abstract

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The academic achievement of students has been a focus of social research for decades. Yet little attention has been paid to social capital and its importance as a university context factor for academic success. We examine whether social capital has effects on students' academic achievement. The population of this study consisted of all senior agricultural students of Razi University at Iran (N=257), that 154 of them were selected as the sample using the proportionate stratified sampling method. The main instrument in this study was a questionnaire which its validity was confirmed by a panel of experts and its reliability was established by Cronbach's Alpha coefficient (α>0.70). Data was analyzed by SPSS<sub>win22</sub> and LISREL 8.80 software in two phases of descriptive and inferential statistics. Results of structural equation modeling indicated that social capital was the main predictor of agricultural students' academic achievement. Findings of this study can have practical implications concerning agricultural students' academic achievement for higher agricultural education mangers, planners and educators.

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### **INTRODUCTION**

Considering the way students are chosen for higher education in Iran eventually universities will constitute of students who are not equal in many aspects such as knowledge level, capability, educational background and potential educational achievement. Entrance of some of these students to Iran universities make academic achievement of them a matter of great concern which in turn leads to educational quality reduction (Hedjazi et al., 2003). While there is strong evidence that the cognitive skills of the population which is a consequence of quality of education are related to individual earnings, to the distribution of income, and to economic growth (Hanushek et al., 2007) and providing human resources in higher level for fulfilling the society needs is one of the universities functions (Hedjazi, 2006). Hence, for improving education it is necessary to address students' academic achievement as one of the educational system components, factors affecting it to suggest required mechanisms for improving it (Abadi and Zamani, 2010). Students have different characteristics (Felder and Brent, 2000), which affect their academic achievement i.e. the extent students reach the educational objectives (Hadzima, 2005). Garton and Dyer (2002) claimed that, students, Grade Point Average (GPA) can be used for measuring their academic achievement, so in this study GPA was used as a measure for students' academic achievement as many other researchers conducted (Garton and Dyer, 2002; Hedjazi and Omidi, 2008; Haghighatian, 2010; Pishghadam and Zabihi, 2011).

Examining students' educational achievement literature showed that in some researches, personal, family, educational and economic factors considered as effective factors (Hijazi and Nagvi, 2006). While in some other researches social, economic and cultural factors have been emphasized (Samie, 2000). Etch-every (2001) believed that students have three kinds of capital can be used for achieving educational goals including: financial capital: which is the money paid for educational costs such as book etc. by their families, 2) human capital: including students and faculties capacities and motivation and 3) social capital: which formed through interaction among students

and faculties in teaching and learning process. Among these, many education scholars has emphasized the appreciation of learners' social capital for improving their educational achievement (Eng, 2009; Kim and Schneider, 2005; Prado, 2009; Schlee *et al.*, 2009; Tramonte and Willms, 2010).

Social capital which is including different aspects of social organization such as networks, norms and social trust (Putnam, 1995); is one the new concepts playing a more important role than physical and human capital in organizations and societies and today in sociology and economy and more recently in organization management is widely used. It refers to links and communication among network members as valuable resources and through creating norms and reciprocal trust leads to realizing members' goals. In the absence of social capital, other capitals lost their efficiency and cultural and economic development becomes hard (Baker et al., 2003). Social capital is a set of potential and actualized benefits achieved through membership in social networks, in other words, it refers to accessible resources in social structures such as trust, norms and social values, social communication and common goals which prepare people for collaborative initiations and is a lateral consequence of social relationship and civic involvement in formal and informal organizations (Kavachi, 2001). Social capital from one view is a managerial phenomenon including different features like trust, common values and behavior, communication, collaboration, networks and mutual commitment and recognition (Villanova and Josa, 2003). Social capital concept, first, introduced and applied by sociologist. Then it gradually attracted other social sciences scholars and in recent years has been used in politics, management and education fields (Alvani and Naghavi, 2004). Scholars and academic society have increasingly become more aware of and interested in the role of social capital in the development process. This attention in different level of educational system such as higher education has been more (Abdolmaleki, 2010). Learners' social capital development is formed in educational systems which it finally can affect their educational

achievement (Putnam, 2000). Recent organizational research showed that 70 percent of learning in educational systems occurs through informal communications and interactions (Sharepour, 2005). Hence educational systems will be enriched when social relationship in them, intellectually and scientifically, challenge students and also provide a great social support for them (Etch-every, 2001). So it can be said students who have more social capital, can be more successful in achieving educational goals (Pishghadam and Zabihi, 2011). In this regard, many researchers (Bankston, 2004; Field, 2003; Hervat et al., 2003), have studied social capital in educational systems and its relationship with learners educational achievement. Considering their findings supporting the critical role of social capital in educational achievement, they claimed that attention to social capital and endeavor to improve it is necessary. In general education fields, also different researchers (Prado, 2009; Kim and Schneider, 2005; De Graaf et al., 2000) in their studies showed that there was strong correlation between social capital and learners' educational achievement. Furthermore, other related researches have been conducted as follows. Carbonaro (1998), reported positive significant relationship between pupils' social capital and their educational achievement. He also showed that social communication component has the strongest and social participation component has the weakest significant correlation with educational achievement. Roger (2003) studied the relationship of the educational

achievement and social capital considered as consisted of three components namely communication, networks, social trust, and social norms and values. He concluded that social capital and its components had positive, significant correlation with educational achievement among which communication networks had strongest correlation with educational achievement. Hang (2009) investigated the relationship of social capital and educational achievement among high school students, his findings revealed that social capital and educational achievement had positive, significant relationship. Anne-Marie (2009) studied the social and cultural capital effect on educational achievement; she supposed social capital as including: social trust, social networks, social support, sharing knowledge and information. His results revealed social capital and its components had positive, significant, direct and in direct effects on educational achievement. Abdolmaleki (2010) examined the role of social capital in high school first year students' educational achievement. In that study social capital consisted of network equality, social norms and values, network size, network mobility and communication cohesiveness. Social capital and its components had a positive, significant correlation with educational achievement. Furthermore, other scholars found significantly positive correlation between social capital and academic achievement in higher education, some of which are: Bassani (2006), Neri and Ville (2008), Eng (2009) and Pishghadam and Zabihi (2011) also

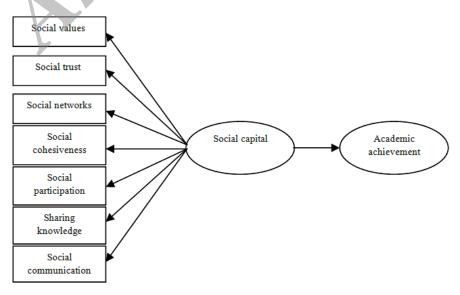


Figure 1: Conceptual framework of study

Table 1: Mean, standard deviation, Cronbach's alpha for research variable

	Components	Mean	Standard deviation	Rank	Cronbach's alpha
1	Social values	2.92	0.89	2	0.77
2	Social trust	2.62	0.95	4	0.72
3	Social network	1.46	1.16	7	0.75
4	Social cohesiveness	3.13	0.97	1	0.76
5	Social participation	2.01	1.22	5	0.86
6	Sharing knowledge	2.91	1.00	3	0.83
7	Social communication	2.01	1.24	6	0.85
-	Social capital	2.44	0.70	-	0.90

reported the same results for higher education context. According to literature reviewed the study conceptual framework formed as follow (figure 1).

Given to higher education graduates role in knowledge-based development which is one of the fourth development program of Iran and considering the lack of the same studies in Iran higher agricultural education this study supposed to address the role of social capital in academic achievement of agricultural students. A deep understanding of the role of social capital in higher agricultural education students' academic achievement can help policy makers and managers to develop new strategies and methods for more educational success in higher agricultural education. Hence the main purpose of this study was to investigation the significance of social capital in the academic achievement of agricultural students at Razi University, Iran and for this purpose, below objectives considered:

- 1. Identifying student's demographic characteristics;
- 2. Determining the social capital and its components status among studied students;
- 3. Determining the students' academic achievement (GPA);
- 4. Comparing students' social capital on their membership in students association;
- 5. Testing the students' social capital and its components correlation with their students' academic achievement;
- 6. Determining the effect of social capital in the students' academic achievement.

## MATERIALS AND METHODS

The statistical population of this study was consisted of all senior students were studying in agricultural field at Razi University (N=275).

Based on Krejcie and Morgan sampling table (1970) and applying proportional stratified sampling method, 154 students were chosen for study. A structured questionnaire was designed based on the study's theoretical framework and constructed to address the purpose and objectives of the study. The questionnaire consisted of three parts namely, demographic characteristics, academic achievement and social capital. Social capital (independent variable) was measured through seven components consisted of 31 items inspiring from (Vilanova and Josa, 2003; Baker et al., 2003; Kavachi, 2001; Putnam, 1995) views about social capital in literature. Dependent variable namely, academic achievement was calculated by total average of students grades in fresh, sophomore and junior students. Face validity of study was proved by a panel of experts namely University of Tehran Agricultural Education and Extension faculties. Reliability was examined by Cronbach's alpha coefficient which has been shown for social capital and its components in table 1. These coefficients were all higher than 0.70 and so social capital scale reliability is suitable. Data were analyzed by SPSSwin22 and LISREL-Win8.80. Frequency, percent, mean score and standard deviation used as descriptive statistics and mean comparison, correlation and path analysis were used as inferential statistics.

#### **RESULTS**

# **Demographic characteristics:**

According to study results students' age mean was 22.30 with a standard deviation of 1.37. 30.9 percent of respondent were male and 69.1 percent of them were female. Furthermore findings showed that 29.6 percent of respondents were member of at least one of students association.

Table 2: Comparison of students' social capital based on members of students association

Dependent variable	independent variable	categories	Ranking mean	SD	t	p-value
Social Capital	membership in association	Yes No	2.72 2.30	0.64 0.68	3.30**	0.001
		No	2.30	0.68		

<sup>\*\*</sup> p<0.01

# Social capital and its components status among students:

As mentioned before, scores mean of social capital and its components were considered as a measure for social capital and its components. Because of the coding system of the questionnaire which was from 0 (not at all) to 5 (very much) so the 2.5 score considered as the medium level for social capital and below it as undesirable condition and upper than it as desirable one (Table 1).

According to table 1, among social capital components, social cohesiveness (M=3.13) had first rank and social network (M=1.46) had the last rank. furthermore, score mean at social values, social trust, social cohesiveness, and knowledge sharing are higher than medium (2.5) and score mean of social communication, social participation, and social networks are lower than medium (2.5). The total score mean of social capital was 2.44, lower than medium, so it can be said that social capital among studied students is not in a good condition.

# Students' academic achievement (GPA):

The student's education grades average of three years (fresh, sophomore and junior years) considered as students' academic achievement. Findings showed that academic achievement mean (GPA) was 15.67 with standard deviation of 1.41 and the score were between 12.21 and 19.75. Furthermore, categorizing the GPAs in three category including: weak (< 14), medium (14-17) and excellent (<17), showed that most of the students (66.2 percent) placed in medium category, while only 24 students (15.6 percent) were in weak category and 28 students ( I 8.2 ) were in excellent category.

# Comparison of students' social capital based on membership in students association:

T test was used for comparing students' social capital based on membership in student's association variable (Table 2). Results revealed that there was significant difference between members of students' association and non-members ones. Social capital mean rank of students were member of these association was more than other students so it can be said students who have membership in these association have a higher level of social capital.

# Social capital and its component relationship with academic achievement:

Pearson's correlation test was used to examine

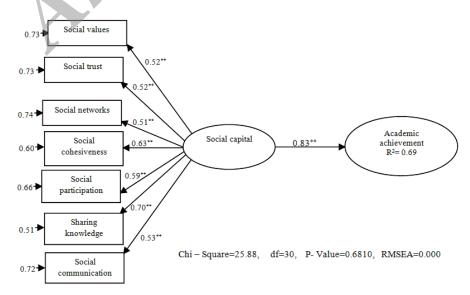


Figure 2: Standardized path coefficients among constructs of study, \*\* p< 0.01

the relationship between social capital and its components with academic achievement (Table 3).

There was positive significant correlation between social capital and all of its components with students' academic achievement. As shown, in the table (3) sharing knowledge and information components had the strongest correlation (r=0.557) and social trust had weakest correlation (r=0.391) with academic achievement. Furthermore the results revealed that total score of social capital has a strong positive association (r=0.726) with student's academic achievement.

# Determining the effect of social capital in academic achievement:

To test the conceptual model of study, path analysis was conducted using structural equation modeling (SEM). Figure 2, shows the standardized path coefficients for the suggested relationships among the variables of the model. Fitness indices of GFI (Goodness of Fit Index), AGFI (Adjusted Goodness of Fit Index), CFI (Comparative Fit Index) and RMSEA (Root Mean Square Error of Approximation) were used to evaluate the model. Overall, the hypothesized model of study had a good fit with the sample data (X²/df=0.862, RMSEA=0.000, NFI=0.98, CFI=1.00, and AGFI=0.94).

Hence considering the model fitness indices, and path model in significance state, it can be said that measuring models of research latent and observed variables have high fitness and validity. Hence research conceptual model is proved and according to structural model in standardized significant state, offered in Figure 2, social capital has positive, significant effect on students' academic achievement ( $\gamma$ =0.83,

t=11.44), because t value is greater than 1.96 which shows the significance of social capital effects on academic achievement. Path coefficient (γ) between social capital and academic achievement is 0.83 percent which means one unit change in independent variable "social capital" leads to 0.83 percent change in independent variable "academic achievement". Furthermore R² (R square) is 0.69 which imply that 69 percent of dependent variable academic achievement variable variance is explained by independent variable "social capital" and the rest is because of measurement error.

### **DISCUSSION AND CONCLUSION**

Educational achievement as one objective of any educational systems is pursuing, in this regard, studies results imply that many factors affecting academic achievement which generally we can summarize them as economic, cultural and social capital among which social capital has increasingly attracted especial attention as a key element in development process. Furthermore, many of educational scholars has emphasized on appreciation and role of it in educational systems and academic achievement.

The importance of social capital is not only due to its role in educational achievement but what may be make it a more considerable phenomena, is its formation within educational environment that provide an endogenous permanent source and because of this we may say it is more manageable by university managers. The poor condition of social capital among studied students indicates the importance of managers' attention to mechanism for improving it.

The significant higher level of social capital

Table 3: Social capital and its component relationship with academic achievement

	Academic achievement			
p-value —	r	p-value		
Social values	0.447**	0.000		
Social trust	0.391**	0.000		
Social network	0.428**	0.000		
Social cohesiveness	0.548**	0.000		
Social participation	0.526**	0.000		
Sharing knowledge	0.557**	0.000		
Social communication	0.440**	0.000		
Social capital	0.726**	0.000		

<sup>\*\*</sup>p<0.01

of students who were members in students' association imply that empowering and supporting these association and encouraging students for membership and activity in these associations can lead to higher level of social capital. A practical motivator can be considering membership and activity in students' association as a criterion for student evaluation especially for acceptance in graduate studies.

Significantly positive correlation between academic achievement and social values component of social capital means that the more students feel themselves valuable in the university the more they try for achieving their goals in the university including educational success. Positive relationship between social trust component and academic achievement means that students' more trust to each other, society and family may lead to educational achievement. Furthermore, findings showed that social networks component is significantly associated with academic achievement. This means more membership and collaboration in social networks including students' scientific associations in university leads to more educational achievement while some faculties or families think these activities may waste students' time and reduce their performance. With respect to social cohesiveness relationship with academic achievement findings showed a positive significant correlation because the more students are coherent in classes and work groups i.e. have more group agreements on affairs the more they try for achieving educational objectives. Such environment may be more pleasant for students which can affect their performance. Findings also revealed a positive, significant correlation between social participation component and academic achievement this relationship means the more students participate in university programs and activities the more their academic achievement improves. There was positive significant correlation between knowledge and information sharing component and academic achievement that means the more students share information, knowledge and courses contents and materials and help each other, the more their academic achievement increase. With respect to social communication component, study findings revealed a positive

significant correlation with academic achievement i.e. more students' participation and engagement in classroom and curriculum leads to higher levels of academic achievement. Study findings also showed a positive, significant correlation between social capital and academic achievement hence it can be said students' social capital is an important factor for them to achieve objectives and finally improving their academic achievement in higher education system. So attending to social capital for better achieving educational system goals by students in Iran higher education system is necessary and this finding is consistent with results of (Abdolmaleki, 2010; Bassani, 2006; Carbonaro, 1998; De-graaf et al., 2000; Eng, 2009; Hong, 2009; Kim and Schneider, 2005; Neri and Ville, 2008; Pishghadam and Zabihi, 2011; Prado, 2009; Roger, 2003) which showed a positive significant correlation between social capital and its components with academic achievement. But it is different from (Carbonaro, 1998; Roger, 2003) findings which reported the highest correlation respectively between, social communication and social network with academic achievement. In this study results revealed the highest correlation between knowledge and information sharing component and academic achievement. This inconsistence may be due to errors resulting from measurement instrument or different social characteristics of different societies. Any way we believe this study finding i.e. the highest correlation between academic achievement and knowledge and information components comparing with other social capital components, is more reasonable, at least for the studied students. Because when students share and exchange scientific and educational information, the probability of learning increases and consequently educational achievement occurs. Acquiring information about faculties' manner of evaluation and examination from classmate or upper grade students or exchanging class notes among students is one the example of how this component may lead to educational success.

Path analysis through structural equation model, proved the fitness and validity of our study conceptual model. Furthermore path analysis results revealed that social capital had a pos-

itive significant effect on studied students' academic achievement. Furthermore, in path analysis model, the explaining coefficient was about 69 percent, so it can be said 69 percent of academic achievement variance can be explained by social capital variable and consequently it is an effective factor on academic achievement. This finding is consistent with many previous researches findings (Abdolmaleki, 2010; Anne-Marie, 2009; Haghighatian, 2010; Israel et al., 2001; Pishghadam and Zabihi, 2011; Pong et al., 2005; Rabert, 2003). Considering this result, Iran higher education system students' social capital has effective role in their academic achievement and hence, attending to social capital and its components development among Iran higher agricultural education system is critical.

Hence, it is necessary for higher agricultural education system policy makers, managers and educators to try to improve and develop social capital among higher agricultural education system students, for this purpose, it is recommendable, to:

- 1- Initiate for establishing and reinforcing exiting students' organizations such as scientific associations and encourage students for membership in them.
- 2- Include collaborative activities and group projects in educational planning and curriculum and encourage students to share and exchange their knowledge and information with each other and appreciate collaborative learning.
- 3- To apply group teaching methods including brain storm, group discussions in classes and provide group teaching and learning culture and atmosphere to encourage students for participating in education programs in class.
- 4- To provide infrastructures and facilities for connecting students, instructors and university staffs through internet phone and also face interaction to develop student's communication networks.

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