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The Role of Social Capital on Generic Skills of Iranian Agricultural Students

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The Role of Social Capital on Generic Skills of Iranian Agricultural Students

Abstract

Purpose- This study was conducted to investigate the role of social capital in Iranian agricultural students' acquisition of generic skills. For this purpose, the effect of various social capital dimensions on students' generic skills development were examined.

Methodology- A survey was conducted among 190 third and fourth-year undergraduate students in one of the Colleges of Agriculture and Natural Resources in Iran. Partial least square (PLS) method was used to examine the relationships among various social capital dimensions (i.e., social values, social trust, social networks, social cohesion, social participation, social communications, and information sharing) with students' generic skills.

Findings- The findings showed that social networks and social participation are effective factors in the generic skills development of students. A model designed for the development of students' generic skills based on their social capital level predicted up to 33 percent of generic skills' variances. Furthermore, the multi-group analysis showed that males and females vary on how various social capital dimensions affect their generic skills. In this respect, the social participation dimension had a significantly greater impact on female students' generic skills, whereas the generic skills of male students were influenced more by the social cohesion dimension.

Practical implications- Developing generic skills through social capital can be considered as an effective strategy in countries that do not have formal programs for developing students' generic skills. Additionally, higher education policymakers should present a more supportive approach for developing generic skills of female students through social participation in the campuses.

Originality/value- So far, no study has examined the relationships among various social capital dimensions and students' generic skills in Iran. The picture is even more unclear when it comes to the differences between male and female students. The results of this study confirmed the importance of social networks and social participation in the universities to support students and to improve their generic skills and, consequently, their employability competencies. Furthermore, it could be inferred that male and female students have similarities and also differences in terms of the effect of social capital on developing generic skills that can provide a path for future studies.

Keywords: Agricultural graduates, Employment, Gender differences, Social capital, Generic skill, Iran

Introduction

There is a significant focus in the literature on students' employability and career development learning (see Jackson, 2014; Molseed, Alsup, & Voyles, 2003; Pitan, 2016; Schlesinger & Daley, 2016; Shearer, 2009). In this regard, the generic skills are often considered of higher value than theoretical knowledge for a smooth transition from education to the labour markets (Adriaensen, Bijsmans and Groen, 2019). This implies

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3 that next to the specialized knowledge and skills, generic skills are also essential for
4 successful and innovative application of disciplinary knowledge in the workplace
5 (Jackson and Chapman, 2012; Jackson, 2014a). As a result, these skills are recognized by
6 experts as important factors for individuals' employability (Bennett & Amundson, 2016;
7 Bennett, Dunne, & Carré, 1999; Bridgstock, 2009; Hillage & Pollard, 1998; Knight &
8 Yorke, 2002; McQuaid & Lindsay, 2005; Stiwne & Jungert, 2010), especially for the
9 "ready to work" graduates (Jackson and Chapman, 2012; Kamaliah *et al.*, 2018). The
10 generic skills enable individuals to participate in the labour market as part of a flexible
11 and adaptable workforce (Bennett, 2002; Pitan, 2017). In other words, students need
12 generic skills to get suitable jobs and succeed in them (Alibaygi and Barani S., 2012).
13 Scholars believe that the role of generic skills in the future workplaces will be more
14 emphasized (Virtanen and Tynjälä, 2019).

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24 The agricultural sector or, to be precise, "Renewable Natural Resources'
25 Management" (Wallace, 1997) includes the whole of a system that produces, processes,
26 and provides food, feed, fibre, ornamentals, and biofuel. Agriculture includes the
27 management of natural resources such as surface water and groundwater, jungles,
28 rangelands, and other lands for commercial or recreational uses, wildlife, the social,
29 physical, and biological subsystems, and the public policy issues related to the total
30 system. All activities, practices, and processes of the public and private sectors involved
31 in agriculture and forestry are within the system (National Research Council, 2010), so
32 agriculture graduates do not have an identifiable profession to enter the job market after
33 graduation (Bawden, 1996). In such a situation, generic skills are crucial for meeting the
34 diverse needs of different occupations available in the market. Not only the diversity of
35 agricultural activities affects agricultural education and graduates' characteristics, but the
36 unique nature of this sector can also have consequences for agricultural education.
37 Shahbazi and AliBeygi (2006) suggested that the interdisciplinary nature of agriculture
38 and its specific cultural, social, and political characteristics necessitate agricultural
39 graduates to have dynamic capability and qualities to be able to think and act on various
40 related issues critically. Agriculture graduates are required to face uncertain and complex
41 situations, norms, values, and conflicting interests efficiently. As Barnett (2000) argues
42 that university students should prepare for the "supercomplexity" of the world, which
43 refers to its contestability, challengeability, uncertainty, and unpredictability.

44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 **Generic skills**

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3 Generic skills, also known as a part of employability skills, are those skills essential for
4 employment, personal development, fulfillment, community life, and active citizenship
5 (Clayton *et al.*, 2004). One of the main challenges of scholars is to deal with terminology
6 and variety of synonyms used for generic skills such as transferable, key and core skills
7 (Bennett *et al.*, 1999; Lorraine Dacre Pool & Sewell, 2007; Freudenberg, Brimble, &
8 Cameron, 2011; Jones, 2009; Washer, 2007). However, there is consensus among
9 scholars that these skills are useful in any field and potentially transferable to a wide range
10 of areas in higher education and workplace (Bennett *et al.*, 1999).

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Generic skills typically include skills like creativity, independent working, teamwork, ability to manage others, ability to work under pressure, adaptability, numeracy, attention to details, time management, responsibility and decision-making, planning, coordinating and organizing ability (The Pedagogy for Employability Group, 2006; Dacre Pool and Sewell, 2007; Dacre Pool, Qualter and Sewell, 2014), oral and written communication such as interpersonal communication and social abilities to deal with social networking sites (Strehlke, 2010), ability to exploit new technologies (Dacre Pool and Sewell, 2007), commercial awareness (Sewell and Dacre Pool, 2010), and problem-solving (Rae, 2007; Sewell and Dacre Pool, 2010) that requires argumentation, reasoning, and critical thinking (Noroozi, Weinberger, *et al.*, 2012; Noroozi *et al.*, 2018).

Scholars claim that extra-curricular activities provide numerous opportunities for students to develop their generic skills (Tran, 2017b, 2017a; Zakhir, 2019). In the same vein, Tchibozo (2007) reported that graduates consider extra-curricular activities as a means to develop their generic skills required by employers, and employers assume such activities as a sign of responsibility, citizenship, and maturity of employees, which are valuable for their work. More specifically, Lau, Hsu, Acosta, and Hsu (2014) illustrated that business school graduates who were amongst the leading members of extra-curricular activities, evaluate themselves higher in general communication skills, leadership, and creativity. Also, Wheeler (2008) emphasized the importance of life spheres, such as activities and relationships that go beyond education and business hours, and cause the acquisition of management skills. Furthermore, he studied the impact of life spheres on part-time students and concluded that there is a positive correlation between the number of relationships across life spheres and performance in some specific skills. The findings of a research done by Jackson (2014b) also demonstrate the importance of life spheres (e.g., family activities, communicating with friends, professional associations, civic or

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3 social engagement, spiritual or religious contributions) in developing some generic skills
4 such as teamwork, effective communication, self-awareness, critical thinking, data
5 analysis, exploiting technology, problem-solving, creativity and enterprise skills, self-
6 management, social responsibility, and professionalism.
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10 Also, the extent to and the manner in which graduates develop their generic skills
11 through these extra-curricular activities may be affected by other influential factors
12 (Smith & Krüger, 2008). According to the scholars, including social values in training
13 programs of university students can better improve their generic skills (e.g., social skills),
14 which are essential for future employability of students (Sail and Alavi, 2010; Mustapha
15 and Rahmat, 2013). In this regard, Smith (2010) underscores the fact that networking with
16 people, particularly in professional associations, is assumed as a conventional manner to
17 expand individual technological skills. Thus, he suggested that there must be a direct and
18 positive correlation between an individual's generic skills and social capital.
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26 ***Social capital***

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28 The conception of social capital became the most popular over the last decades
29 (Mačerinskienė and Aleknavičiūtė, 2011). Scholars began to emphasize the wideness and
30 applicability of this concept and its ability to be accepted in a variety of fields. That is
31 why social capital has a multi-dimensional nature (Koka and Prescott, 2002). Putnam
32 (1993) defined Social capital as “features of social organizations, such as networks,
33 norms, and trust that facilitate action and cooperation for mutual benefit”. In other words,
34 social capital refers to available resources within social structures such as social trust,
35 norms and values, social communication, and common objectives, which prepare
36 individuals for collective action (Kawachi, 2001). Also, Núñez (2009) stated that social
37 capital contains some dimensions such as social networks, social support, and sharing
38 information and knowledge. In addition, Cohen and Pursak (2002) referred to social
39 participation, reciprocal obligation and mutual recognition, and networks as other
40 dimensions of social capital. Consequently, social capital can include seven distinct
41 dimensions, which are social values, social trust, social networks, social cohesion, social
42 participation, social communication, and sharing knowledge (Shiri *et al.*, 2013).
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55 Scholars argue that the social capital of learners is partially formed in educational
56 systems (Shiri *et al.*, 2013). There is also research evidence indicating that social capital,
57 and consequently the generic skills, can develop through the pedagogical approaches that
58 employ active methods and collaborative activities (Ballantine and Larres, 2007;
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3 Francescato *et al.*, 2007; Virtanen and Tynjälä, 2019). Indeed, the collaborative activities
4 can promote learners' social interactions and communications within their social
5 networks (Noroozi, Biemans, *et al.*, 2012; Farrokhnia *et al.*, 2019), which may further
6 influence the development of the learners' social capital and generic skills (Smith & Bath,
7 2006).
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10 11 12 ***The context of the study*** 13

14 Economic development strategies applied by the majority of Middle Eastern countries,
15 including Iran, are mainly criticized because of their lagging human development
16 indicators. Thus, the main task of education in Iran has been to shift from allocating
17 rewards for unproductive skills, such as pure memorization and test-taking skills, to more
18 productive and hard-to-test skills, namely generic skills such as creativity and teamwork
19 (Salehi-Isfahani, 2005). The higher education system in Iran has been considerably
20 expanded during the past 30 years, reflecting a significant shift from an elite system
21 towards mass higher education. This expansion has led to increased access to higher
22 education across a broader range of populations (e.g., male/female, rural/urban,
23 old/young) coupled with an increased supply of graduates to the labour (Abbasi and
24 Zamani-Miandashti, 2013).
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34 However, the lack of skilled and qualified graduates or graduates' employability has
35 still been mentioned as one of the major challenges of higher agricultural education in
36 Iran (Pouratashi, 2019). While employers place the importance of generic skills to be
37 relatively higher than the disciplinary competencies of agricultural graduates (Alibeigi
38 and Zarafshani, 2006), some studies report that Iranian agricultural students have a
39 moderate level of generic skills (Alibeigi and Zarafshani, 2006; Alibaygi *et al.*, 2013). In
40 a survey, most of the agricultural sector employers pointed out that newcomers mainly
41 need more generic skills (Shahbazi and Beygi, 2006). Similarly, Sharepour, Salehi, and
42 Fazeli (2001) carried out research among three Iranian Universities and found out that
43 students' level of generic skills is weak. They concluded that the Iranian higher education
44 system is not appropriately successful in fostering students' generic skills. Also, after
45 repeating the same research almost ten years later at the University of Mazandaran, the
46 findings again revealed that the level of students' generic skills has more decreased
47 (Janalizadeh-Choubbasti, Khakzad and Moradi, 2013); which, demonstrates a
48 considerable gap between the existent situation and desired level (Alibaygi & Barani,
49 2012).
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3 On the other hand, the number of women attending higher education institutions in
4 Iran has been steadily increasing since 1989 (Shavarini, 2005). About 56 percent of
5 bachelor of science students enrolled in agricultural and veterinary majors in different
6 Iranian higher education institutes in 2016 were female (Mirabi, 2018). Increasing rates
7 of female students in higher agricultural education have made their employment a critical
8 issue (Khosravipour and Soleimanpour, 2011). Furthermore, Nedjat *et al.* (2013) reported
9 that the social cohesion and social networks' dimensions among males were significantly
10 higher than females. Therefore, by considering the potential role of social capital on the
11 development of individuals' generic skills (see Smith, 2010), these differences can be
12 further responsible for any discrepancies between male and female students in their
13 acquisition of generic skills.
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22 ***Purpose of the study***

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24 Based on the previous literature, some dimensions of social capital, such as membership
25 in social networks, social participation, sharing information, and knowledge and social
26 communication, are expected to have casual relationships with generic skills. However,
27 theoretically, the effect of some other dimensions of social capital, such as social
28 cohesion, and social trust with the acquisition of generic skills, are ambiguous. Such
29 correlations are not yet investigated in the literature, especially when it comes to the
30 Iranian context. Therefore, given the importance of generic skills and the ambiguity of
31 the role of social capital in Iranian university students' generic skills (including
32 agriculture students), this study aimed to investigate the effect of various dimensions of
33 social capital on students' acquisition of generic skills. Besides, considering the previous
34 research outcomes about the discrepancy among male and female students' social capital
35 dimensions, we decided to focus on gender to explore the potential differences between
36 male and female students in terms of the role of social capital in developing generic skills.
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48 Thus, based on the arguments above, this study aims to answer the following
49 questions:
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52 **Research question 1-** To what extent do the various dimensions of social capital
53 affect the development of Iranian university students' generic skills?
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56 **Research question 2-** Does gender moderate the effect of various dimensions of
57 social capital on the development of Iranian university students' generic skills?
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59 **Methodology**

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Participants

The population of the study consisted of all third and fourth-year undergraduate students of the College of Agriculture and Natural Resources in one of the universities in Iran. According to the Education Department of the University, the number of students was equal to 715. Based on the Cochran formula for a finite population (see Cochran, 1977), 190 students (90 male and 100 female) were recruited to participate in this study. Since the major of study was different among the students, the stratified proportional random sampling method was used to select the sample from the population under study (see table 1).

(Please insert Table 1 here)

Data collection and instruments

A questionnaire was given to the participants at the colleges or dorms, and they were asked to fill it out at their convenient time over one month. The questionnaire consisted of three main parts, including individual characteristics, social capital, and generic skills as follows:

Individual characteristics: Students were asked to state their age, gender, and major of study as the main demographical information of the study.

Social capital: Twenty-eight statements of the questionnaire separately measured the seven dimensions of social capital using self-assessment on a five-point Likert scale (ranging from 1= strongly disagree to 5= strongly agree). For example, the statements for social networks dimension include the following: "I am in touch with agricultural engineering organization" and " I consider myself as an active person in social media " (refer to table 2 for other dimensions' statments).

Generic skills: The statements of the Central Lancashire University Profile presented by Sewell and Dacre Pool (2015) were used to measure generic skills. This profile is based on the CreerEdge model of employability (Dacre Pool and Sewell, 2007). The CreerEdge model of employability was designed to be practical and understandable for both academics and students (Dacre Pool, 2017; Small, Shacklock, & Marchant, 2018). This profile was also reasonably short and understandable for students. Following our definition of generic skills, sixteen statements of the profile for

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3 generic skills, such as oral and written communication, team work, problem-solving,
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5 time management, creativity, and idea generation skills, were used to measure students'
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7 generic skills. The statements were translated into Persian and used to measure students'
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9 generic skills on a five-point Likert scale (ranging from 1= strongly disagree to 5=
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11 strongly agree). Examples of statements include the following: "I have proper oral
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13 communication skills" and "I can adapt myself with new situations".
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18 The questionnaire validity was examined in three ways of face, construct (i.e.,
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20 confirmatory factor analysis or measurement model), and discriminant validity. A panel
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22 of agricultural extension and education faculty members approved the face validity of the
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24 questionnaire. To examine discriminant validity, the square root of the average variance
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26 extracted (AVE) was used, which is called the Fornell - Larcker (1981) criterion. For this
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28 purpose, the AVE square root should be larger than other factors' correlation with related
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30 latent variables (Sarstedt, Ringle, and Hair, 2017). Also, the questionnaire reliability was
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32 examined using the composite reliability method in which the values higher than 0.6
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34 indicate the reliability of the instrument (Nunnally and Bernstein, 1994) (see table 2).
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36 **Analysis**

37 ***Unit of analysis and variables***

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39 Based on the research questions, students' social capital (including seven different
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41 dimensions) is the independent variable, and generic skill is the dependent variable of the
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43 study. Also, gender is considered as the moderator variable that may affect the
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45 relationship between dependent and independent variables. The overall average score of
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47 each individual calculated from generic skills' statements was considered as individuals'
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49 generic skill scores, and the average score of each of the seven social capital dimensions
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51 was considered as each individual's asset in that dimension.

52 ***Statistical tests***

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54 To examine the effect of independent variables on dependent ones, partial least square
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56 (PLS) method was used. PLS-SEM is assumed as a component-based method in unknown
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58 parameters' estimation, which has low sensitivity towards sample size and residuals'
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60 distribution (Chin, 1998). Furthermore, Bootstrap approaches (non-parametric), *t*-
parametric approach (with the assumption of variance homogeneity in both matrices), and

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3 *Welch-Satterthwait* method (without the assumption of variance homogeneity in both
4 matrices) were used to explore the moderating role of gender in the effect of social
5 capital's different dimensions on developing generic skills.
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8 **Results**

9 ***Descriptive data***

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13 The average age of the students was 21.9 years ($SD = 1.19$). Also, 47.3% of students were
14 male, and about 52.7% were female. The total mean score of students' generic skills was
15 higher than average ($M = 3.60$, $SD = .57$), and the mean score of students' social capital
16 was 3.20 ($SD = .52$) out of 5.00.
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20 ***Measurement model test***

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23 The Measurement model test aimed to evaluate the reliability and validity of the
24 questionnaire. In this regard, confirmatory factor analysis was conducted using SmartPLS
25 version 3 software to estimate the convergent validity and discriminant validity of the
26 indicators of the eight constructs in the questionnaire. As a result of the convergent
27 validity test, all the indicators had a standardized loading factor value of $\geq .5$, which
28 confirms the convergent validity of the indicators. Also, the composite reliability was
29 used to examine the construct reliability of the questionnaire. For all the eight factors
30 included in the questionnaire, the composite reliability value was more than .7, which
31 indicates the high reliability of the structure (see Table 2).
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39 (Please insert Table 2 here)

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41 Furthermore, to examine the discriminant validity, the square root of AVE and factor
42 correlation coefficients were compared. According to Table 3, it is inferable that there is
43 no correlation value higher than the square root of AVE. In other words, all variables are
44 valid for the discriminant validity test.
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49 (Please insert Table 3 here)

50 ***Structural model test***

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53 The Structural model test examines research hypotheses and model fitness through
54 analyzing the data by PLS. In this regard, the statistical significance of the path
55 coefficient among the latent variables was examined. Figure 1 depicts the results of
56 the structural model analysis (see Figure 1).
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(Please insert Figure 1 here)

Exact fit test: a model fit test, which applies bootstrapping to derive p values of the (Euclidean or geodesic) distances between the observed correlations and the model-implied correlations, was used to test the model fit or hypothesized model structure (Hair Jr *et al.*, 2017). The values of Euclidean distance square indices (d-ULS) and Geodesic distance (d-G) had the t -values equal to 120.10 and 9.07 respectively in significance level 0.01, which shows the hypothesized model has indicated a good fit to the data. The Standardized Root Mean Square (SRMR) was also equal to .08, which shows a good fit of the hypothesized model to the data.

Research question 1

Based on Table 4, two components of social capital were effective in developing generic skills. The dimension of social participation had a path coefficient of .25 ($p < .01$). The amount of t -statistic for this coefficient was significant, with 99% certainty ($t = 3.22$). Such a high significance indicates that the social participation dimension plays an important role in developing students' generic skills. The social networks dimension with a path coefficient of .15 ($p < .05$) also had a statistically positive significant effect ($t = 2.07$) on generic skills. Concerning other dimensions, since their t values were less than 1.96, it was concluded that they were not significant in predicting the level of generic skills. Furthermore, it was discovered that a model designed for the development of students' generic skills based on their social capital level predicted up to 33 percent of generic skills' variances, which is substantial.

(Please insert Table 4 here)

Research question 2

Multi-group analysis of demographic background variables can be conducted to check the robustness or differences of the model across different groups of graduates (Jackson, 2016). Considering the importance of female students' employability issues (Khosravipour and Soleimanpour, 2011) and evidence about possibly different patterns in female social capital (Chuang and Chuang, 2008; Nedjat *et al.*, 2013), we focused on gender for exploring the potential differences of male and female students in terms of the

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3 social capital effect on developing generic skills. This probability was examined whether
4 generic skills' impact pattern of social capital dimensions differs in males and females.
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7 According to the results illustrated in Table 5, using *t*- parametric and Welch-
8 Satoith, there were no significant differences between the two groups. Nonetheless,
9 based on the non-parametric bootstrap approach, a significant difference was found
10 between females and males in terms of the impact of social participation dimension ($p =$
11 $.003$) and social cohesion dimension ($p = .04$) on generic skills development. Due to the
12 fact that the path coefficient in social participation for females' model was larger than
13 that of males, thus it was inferred that this dimension of social capital has a statistically
14 stronger impact on females' acquisition of generic skills. On the contrary, path coefficient
15 in social cohesion for males' model was larger than that of females, thus it was inferred
16 that this dimension of social capital has a statistically stronger impact on males'
17 acquisition of generic skills. (see Table 5).
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28 **Discussions**

29 ***The effect of social capital's dimensions on developing generic skills***

30
31 The overall finding of this study pinpointed the fact that social capital plays a significant
32 role in developing students' generic skills. Among different dimensions of social capital,
33 social participation has the most impact on developing the generic skills of agriculture
34 students (Beta= .25, $p < .001$). As it was anticipated, students' participation in social
35 activities provides a reliable headstock to improve their generic skills in an appropriate
36 environment through such social voluntary activities. Especially in Iran, university
37 managers and policymakers are not well informed about the importance of students'
38 generic skills, and as a result, these skills have no prominent position in universities'
39 formal curriculum. Students consciously or unconsciously practice generic skills such as
40 oral and written communications (like writing letters from students' associations to the
41 principals of the university) or teamwork and a lot of other generic skills through social
42 activities. These functions could be considered the same as students' extra-curricular
43 activities, which certainly increase employability or their generic skills (Tchibozo, 2007;
44 Stiwne and Jungert, 2010; Lau *et al.*, 2014). This finding is also consistent with Jackson's
45 (2014b) findings that confirmed the effect of life spheres, including social activities on
46 the acquisition of generic skills.
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Besides the social participation dimension, the results of this study confirmed the impact of students' membership in social networks on their acquisition of generic skills (Beta= .15 $p < .05$). This finding is also in line with Wheeler's (2008) findings of the positive correlation of students' communication frequencies in all life spheres with the development of students' generic skills. Noteworthy, the Beta coefficient of social networking on the model was less than social participation. It shows that social networking had a lower impact on generic skills development in comparison to social participation. In fact, having social network does not guarantee the actualization of its positive benefits (Batistic and Tymon, 2017), and the size, diversity, and strength of an individual's network are quite important factors that determine the function of the network in terms of the information that provides (Fugate, Kinicki and Ashforth, 2004). Thus, although membership in the social network is a predictor of students' generic skills, social participation is a stronger and more objective signal of generic skills. However, other dimensions of social capital studied in this study did not offer an effective role in developing generic skills.

According to findings, the effect of the social values dimension was not significant on generic skills development ($p = .39$), which is inconsistent with the results of Hedjazi et al.'s (2018) study. They argue that the social values dimension is effective on agricultural students' employability skills as a broader concept, which includes generic skills, experience, career development learning, degree understanding and skills, and emotional intelligence. This inconsistency may be related to the effect of social values on the other dimensions of employability skills except for generic skills.

Also, the social trust dimension did not have a significant effect on the acquisition of generic skills ($p = .07$). However, the fact is that trust in people leads to a better exchange of information, knowledge, and other resources (Khodadad Kashi and Afsari, 2014) and facilitates social participation (Sagafi and Rad, 2014). Thus there may be an indirect relationship between trust and generic skills development through the mediation of social participation, which demands further investigations.

Social cohesion was not significantly effective in students' generic skills development ($p = .32$). However, in multi-group analysis to examine the difference between females and males, it was found that the social cohesion dimension is only effective on the generic skills of male students and not female ones. This finding implies that gender moderates the effect of social cohesion on generic skills development. Also,

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3 since social cohesion facilitates social participation (Safiri and Sadeghi, 2009; Sedaghat
4 and Ghahreman, 2009), thus there is a possibility for a more robust relationship between
5 social cohesion and generic skills development via the mediation of social participation.
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9 The social communications dimension did not also significantly influence students'
10 generic skills development ($p = .82$). Except for some skills like oral communication,
11 social communication does not contribute to generic skills development or any kind of
12 employability assets unless they are consciously directed toward employment-oriented
13 communications. The importance of this consciousness is highly reinforced in
14 employability literature such as Dacre Pool and Sewell (2007). They included the
15 "reflection and evaluation" as one of the dimensions of employability, which means that
16 students should be aware of any kind of ability required for labour market and personally
17 address their weakness and strength to prepare themselves for labour market. However,
18 Benson, Morgan, and Filippaios (2014) argued that "social networking awareness" is
19 ignored in higher education.
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29 Lastly, the information-sharing dimension also did not have a significant effect on
30 the acquisition of generic skills ($p = .14$). As we discussed for the social communication
31 dimension, information sharing will lead to generic skills development only if it is
32 directed consciously and strategically toward generic skills development. Therefore, this
33 lack of effect may be attributed to the participants' lack of awareness regarding the
34 contribution of information sharing to their acquisition of generic skills
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39 ***The moderating role of gender***

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41 In multi-group analysis to examine the difference between females and males, it
42 was found that among different social capital's dimensions, the social participation has
43 a statistically stronger impact on females' acquisition of generic skills in comparison to
44 males. This issue probably arises from the fact that in the context of Iran, females have
45 more limitations to participate in society compared to males (Sedaghati Fard and
46 Sakhamehr, 2013; Rezaei Nasab and Fotuhi, 2015). Hence, they are mostly dependent
47 on social participation within the university (as measured in this research) to gain and
48 practice their generic skills. In contrast, males have more opportunities such as summer
49 jobs or social participation out of universities to develop such generic skills.
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Besides, the findings confirmed that the social cohesion dimension is only effective in developing generic skills of male students and not female ones. Because of the lack of data, we cannot explain this finding with certainty, but this phenomenon again reinforces the moderating role of gender in the effect of social capital on students' acquisition of generic skills. However, this finding should be considered with caution and re-evaluate in future research.

Conclusions

The results of this study can be divided into two key points: First, social participation and social networks' dimensions are effective in developing the generic skills of Iranian agricultural students. Second, the social participation dimension has a greater effect on female students' generic skills development. Furthermore, the impact of the social cohesion dimension is significant only in the development of males' generic skills.

Although it was known in other contexts such as in the United States of America (Wheeler, 2008) and Australia (Jackson, 2014b), the results of this study confirmed the importance of social networks and social participation in Iranian universities to support students improve their generic skills and consequently their employability competencies. Thus, it is crucial to reconsider extra-curricular activities, especially in students' organizations, as a key element of higher education and as a supplement to the formal curriculum.

It should be noted that according to findings of the current study, compared to the male students, Iranian female students generic skills acquisition is more affected by the social participation. The results of the previous studies in Iranian higher education show that female students' participation in the society is usually less than their male counterparts (Sedaghati Fard and Sakhamehr, 2013; Rezaei Nasab and Fotuhi, 2015). As a result, it can be concluded that the social environments and activities in the universities can provide opportunities for female students to develop their generic skills. Thus, policymakers and university authorities are expected to provide a variety of opportunities for social participation and activities to guarantee greater participation of females. To do so, forming a provision of a specific social environment, i.e., students' organization for female students, is indispensable to pave the way for female students to participate in programs actively.

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3 In conclusion, developing generic skills through social capital can be considered as
4 an effective strategy in universities, including the universities do not have a program for
5 developing generic skills or those looking for a more naturalistic and experiential learning
6 environment or those encountering teaching staff skepticism regarding generic skills that
7 could happen in any country as well as developed countries (cf. Bennett et al., 1999;
8 Jackson, 2014a; Chan and Fong, 2018). For doing this, university and college' authorities
9 must provide more flexible policies regarding the social environments of the campuses
10 as well as students' organizations in terms of these organizations' variety to be able to
11 guarantee equal opportunities for both female and male students.
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19 **Limitations and future research**

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21 This study has some limitations posed by the sample that must be taken into account. One
22 of the limitations is that the data was gathered only from one university. However,
23 considering the fact that each university may have a different social atmosphere, such as
24 various extra-curricular, social, and political activities, it is expected the future studies to
25 do the same research in different universities to see the effect of varying university social
26 atmosphere on how the social capital for the graduates would form. Furthermore, in this
27 study, the data has been derived only from agricultural students. However, the results of
28 the study may be different for other majors. As a result, future studies should consider
29 different majors for more robust and generalizable findings.
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37 Additionally, more research is needed to investigate the causal relationship
38 between social capital dimensions and their impact on developing generic skills. More
39 specifically, as it is argued in the discussion, social trust and social cohesion facilitate
40 social participation (see Safiri & Sadeghi, 2009; Sagafi & Rad, 2014; Sedaghat &
41 Ghahreman, 2009), which according to this study's finding social participation had a
42 significant effect on generic skills development. Thus, there is a possibility for social
43 participation in mediating the relationship between social trust and cohesion and students'
44 generic skills development. Future research can test these relationships.
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52 Lastly, this study has been taken place in the Iranian educational context. However,
53 the social atmosphere in the educational context may differ for other countries based on
54 their social and cultural norms (Heinrichs et al., 2006), as was seen in the other studies
55 (see Hsu, Van DykeFollow, & Smith, 2017; Noroozi et al., 2018). Therefore, more studies
56 are needed to be done in different countries to investigate the effect of students' social
57 capital on their acquisition of generic skills. Also, the effect of social participation of
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female students on their acquisition of generic skills is subject to more research and consideration in some other parts of Moslem Mideast countries with limitations for women and girls for participating in a social environment.

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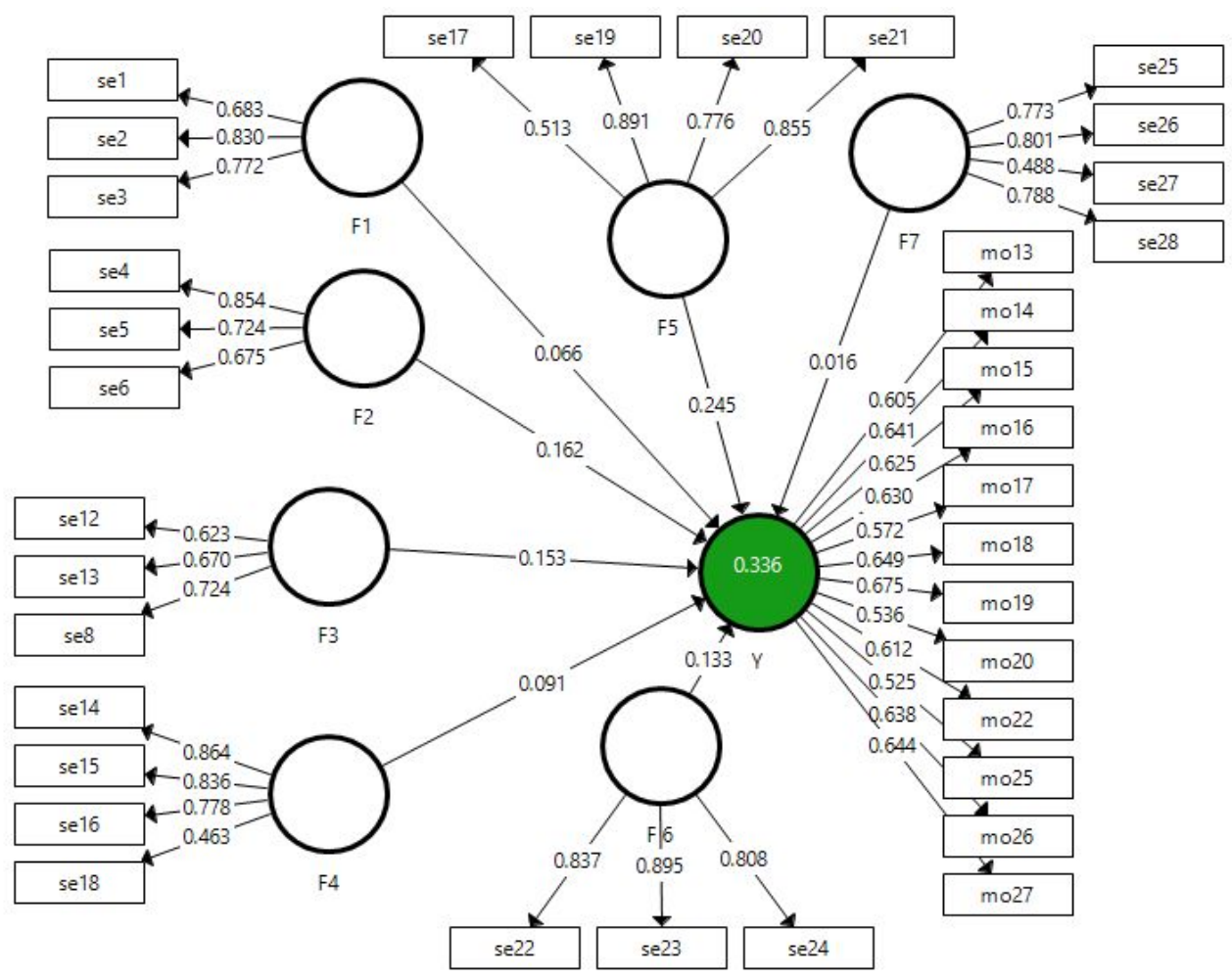


Figure 1. Research Structural – Path model

Higher Edu

Learning

Table 1. The frequency of students' major of study in the sample

Major	Frequency	Percent
Irrigation and Reclamation Engineering	18	9.6
Horticultural science	16	8.5
Agricultural extension and education	15	8.0
Agricultural machinery engineering	25	13.3
Agricultural economics	11	5.9
Agronomy and plant breeding	26	13.8
Soil science	17	9.0
Crop protection	13	6.9
Animal science	21	11.2
Food Science and Technology	12	6.4
Landscape design	14	7.4
Total	188	100.0
Missing	2	-

Table 2. The values of the loading factor for each factor indicators of the measurement model

Factor	Statements	Factor loading	t	Composite Reliability	rho (θ)
Social values (F1)	The university values me and respects me a lot (se1)	.683	7.061	.807	.777
	Society values me and respects me a lot (se2)	.830	13.23		
	I possess a good position amongst my friends or classmates (se3)	.772	10.65		
Social trust (F2)	I trust the members of my family (se4)	.854	10.13	.797	.755
	I trust my family and relatives (se5)	.724	6.15		
	I trust my friends or classmates (se6)	.675	4.91		
Social networks (F3)	I am active in students' scientific association (se8)	.724	5.09	.713	.707
	I am in touch with the agricultural engineering organization. (se12)	.623	6.19		
	I consider myself as an active person in social media (se13)	.670	7.57		
Social cohesion (F4)	I can easily get along with my friends and classmates (se14)	.864	25.75	.833	.813
	I'm very close to my friends and classmates (se15)	.836	19.88		
	I fully understand my friends and classmates (se16)	.778	10.26		
	I have a collective agreement with my friends and classmates on different issues (se18)	.463	3.64		
Social participation (F5)	I am active in non-governmental organizations (NGOs) such as charities, organizations or religious institutions (se17)	.513	5.72	.851	.817
	I voluntarily help students' scientific societies scientifically and thoughtfully (se19)	.891	41.18		
	I accept responsibilities in the implementation of various programs at the university or I cooperate with them (se20)	.776	15.66		
	I help political societies at the university (se21)	.855	23.67		
Information sharing (F6)	I receive information and knowledge in various fields from my friends and classmates (se22)	.837	21.42	.884	.818
	I offer information and knowledge in various fields to my friends and classmates (se23)	.895	39.09		
	I talk about curricular subjects with my friends and classmates (se24)	.808	19.47		
Social communications (F7)	I talked with my friends and classmates on the phone last week (se25)	.773	9.80	.810	.756
	I go outdoor with my friends and classmates (se26)	.801	7.85		
	I go to other cities to meet my friends and classmates (se27)	.488	3.19		

	I stay in touch with my friends and classmates during the holidays (such as summer etc.) (se28)	.788	7.68		
	I have proper oral communication skills (mo13)	.605	8.40		
	I have presentation skills (e.g., in classes) (m14)	.641	11.02		
	I am absolutely confident about my written communication skills. (E.g. different types of letters and requests) (mo15)	.625	10.94		
	I can work well with others in a group (Desire to teamwork) (mo16)	.630	10.78		
	I have the ability to work independently (mo17)	.572	8.36	.879	.854
Generic skills	I have problem-solving competency (mo18)	.649	10.58		
	I am good at planning and organizing skills (mo19)	.675	13.08		
	I can manage my time effectively (mo20)	.536	7.73		
	I am ready to accept responsibility for my decisions (mo22)	.612	10.5		
	I am satisfied with my numeracy skills (mo25)	.525	8.45		
	I am good at creating new ideas (mo26)	.638	12.35		
	I can adapt to new situations (mo27)	.644	12.36		

Table 3. The square root of AVE (shown as bold at diagonal) and factor correlation coefficients

Factor	1	2	3	4	5	6	7	8
Information sharing	.847							
Social values	.325	.764						
Social trust	.393	.427	.755					
Social networks	.277	.260	.027	.674				
Social cohesion	.487	.315	.489	.268	.753			
Social participation	.306	.386	.084	.642	.258	.773		
Social communications	.506	.246	.385	.151	.475	.234	.724	
Generic skills	.388	.346	.318	.396	.368	.451	.286	.614

Table 4. Linear effect social capital dimensions on generic skills

Examined relationship	Beta	t	STDE	Sig.	R²	R²_{adj}
Social values	.66	.87	.08	.38		
Social trust	.16	1.83	.09	.07		
Social networks	.15	2.07	.07	.04		
Social cohesion	.09	1.00	.09	.32	.34	.31
Social participation	.25	3.22	.08	.00		
Information-sharing	.13	1.47	.09	.14		
Social communications	.02	.25	.07	.82		

Table 5. The results of multiple group analysis of the model based on the triple approach

Independent variables	Bootstrap						Parametric t			Welch-Satterthwait		
	Males			Females			$\Delta\beta$	t	p	$\Delta\beta$	T	p
	beta	t	p	beta	t	p						
Social values	.18	.98	.37	.06	.59	.56	.05	.32	.75	.05	.32	.75
Social trust	.19	1.54	.12	.10	.78	.43	.09	.49	.62	.09	.50	.62
Social networks	.09	.81	.41	.21	1.88	.06	.12	.77	.44	.12	.77	.44
Social cohesiveness	.25	2.23	.04	-.01	.11	.90	.26	.49	.14	.26	.50	.14
Social participation	.16	.64	.14	.29	3.00	.00	.13	.86	.39	.13	.86	.39
Information sharing	.12	.87	.38	.15	1.10	.27	.03	.13	.90	.03	.13	.90
Social communications	.23	1.75	.14	.11	.77	.42	.12	.51	.61	.12	.51	.61