

General Perceived Self-Efficacy of Iranian College of Agriculture Students

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Abstract

This exploratory descriptive study examined the utility of the social cognitive theory in assessing generalized perceived self-efficacy of agricultural students at Razi University. Two hundred college students majoring in agricultural extension, plant science, animal science, water engineering, and crop science participated in the descriptive survey. Agricultural students were efficacious in handling challenging tasks in diverse situations. Male students were more efficacious than the female students. There were no significant differences in general self-efficacy scores across student classifications and majors. Implications of gender differences are discussed.

Keywords: Domain-specific Self-efficacy, Global Competency, Social-cognitive Career Theory, Social Cognitive Theory, Problem-Solving

Introduction

Agricultural colleges in Iran develop human capital by preparing students for challenging careers in the food, production, and natural resources industries. Technical knowledge and professional skills are critical to adequately prepare agricultural college students to be effective employees for the workforce in a knowledge economy (Rad, Nasrabadi, & Bruening, 2005). However, the vast amount of information, knowledge, and skills needed by Iranian agricultural students to be effective in career and life planning decisions can be overwhelming. Although students need to know a wide range of information to succeed in their career goals, they must also feel capable enough to manage and cope with everyday tasks.

College students need a high sense of self-efficacy if they are going to be successful in preparing themselves for challenging professional careers in the food, agriculture, and natural resources industries. Self-efficacy is an "I can do it" belief that reflects one's accurate self-assessment in his or her ability to effectively adapt and perform necessary tasks in the face of challenging environments (Bandura, 1997). Self-efficacy is an important motivation for people to be successful in their careers. General perceived self-efficacy is related to academic achievement, career choice, career development, job performance and coping abilities when confronting obstacles (Multon, Brown, & Lent, 1991). People with higher general self-efficacy are more committed to their job and consequently have a lower intention to turnover (Luthans, Zhu, & Avolio, 2006). Moreover, an attractive aspect of general perceived self-efficacy theory for practitioners such as college instructors is the notion that it is malleable and can be enhanced through teaching and learning experiences.

In the last 25 years, Iran has experienced population growth (now over 60 million), and significant changes in its economy and society. One of these changes

has been burgeoning growth in higher education, especially in the number of women pursuing college education. There are over 100 higher education institutions comprising of 30 universities, 14 colleges, 5 private colleges, and 36 higher education centers for in-service training of government employees (The Higher Education Advisory of the Islamic Republic of Iran, 2003). In 1979, a total of 175,675 students were engaged in higher education. Enrollment in higher education increased to more than 344,045 in 1991-1992. Of this, 96,969 students (28%) were women. More specifically, the number of women graduates in agricultural related fields has risen dramatically since 1996 (Bakhshi-Jahromi, 2006). According to Esfandiari (2005), 60% of qualified freshmen entering university were women.

The growth in Iran's higher education is also reflected in its expanding comprehensive curricula. At present, universities throughout Iran are offering courses in arts and literature, humanities, basic and natural sciences, agriculture, engineering, and health and medical sciences. Contrary to the growth in enrollment for higher education, unemployment of university graduates has been increasing in Iran (Sharifzadeh, & Zamani, 2005). The country is suffering from national unemployment at a rate of 13.2% (The Human Development Report of the Islamic Republic of Iran, 1999), and 28% of agriculture and natural resources college graduates (Jalali, 2003, as cited in Sharifzadeh, & Zamani, 2005) to 41% of vocational and technical higher education institute graduates in the North Western Provinces in Iran were unemployed (Rad, Nasrabadi, & Bruening, 2005). Despite the high unemployment in the agricultural sector due to limited job opportunities, career preparation for the agricultural sector is one of the most important responsibilities of vocational and technical higher education in Iran (Rad, Nasrabadi, & Bruening, 2005).

This study was conducted because of four needs. First, the Higher Council for Cultural Revolution (HCCR) has developed certain indicators for higher education to be followed by colleges and universities. General self-efficacy beliefs are among those indicators that are recommended to be enhanced among college students. Knowing how self-efficacious students in college of agriculture are could provide faculty and academic advisors with the necessary information to assist students in career planning and decision making. Knowledge of general perceived self-efficacy among students helps instructors to understand how students think about themselves in both positive and negative ways, how motivated they are to overcome challenges, and the degree of anxiety and mental stress they may experience when faced with adversities. Second, there is a need to know the general self-efficacy beliefs of agricultural students in Iran because agriculture is a considered a key component of economic development and self-efficacy motivation is critical to helping college students pursue careers in the food, agriculture, and natural resources industries. Third, educational researchers have studied self-efficacy in the context of science, technical, engineering, and math (STEM). Self-efficacy research in the STEM fields is of particular interest because it aligns closely with the applied nature of science, technology, engineering, and math in the agricultural disciplines. Educational experiences in life science, engineering, and technology context can potentially expand career options for students in an increasingly competitive knowledge-based society (Betz & Hackett, 1983). Finally, self-efficacy can vary across cultures because of culturally-informed self-assessments of one's abilities (Scholz, Dona, Sud, & Schwarzer, 2002). Therefore, the purpose of the present study was to examine general self-efficacy belief among students in the college of agriculture at Razi University in the western province of Iran.

Theoretical Framework

Self-efficacy originated from Bandura's (1986) theory of social cognition. Self-efficacy is a belief "in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). People make judgments of their own capabilities and act on their beliefs based on personal and environmental factors (Bandura). Self-efficacy is "both a personal and a social construct because individuals operate individually and collectively" (Knobloch, 2002, p. 33). Representing the personal dimension, knowledge and skills influence how students reflect on their own capacities to perform specific tasks in challenging situations. A variety of environmental factors, such as family, education, social and economic conditions, can influence self-efficacy (Bandura, 1986). Self-efficacy is important because it influences students' decision-making, problem-solving, motivation, commitment, resiliency, cognition, emotions, behaviors, and outcomes ultimately achieved (Bandura). Self-efficacy is a good predictor of academic and career motivation and performances (Schunk & Pajares, 2004; Stajkovic & Luthans, 1998).

Lent, Brown, and Hackett (1994) have extended self-efficacy into career development known as the social-cognitive career theory (SCCT). Rooted in Bandura's (1986, 1997) social cognitive theory, and SCCT helps inform one's interests, choices, and performances regarding education and careers. According to the social-cognitive career theory, people with high self-efficacy are more likely to be engaged in academic and career choice goals and actions. Social factors such as gender, culture, and race influence career self-efficacy, which is believed to influence career interests, goals, and behavior (Lent, Brown, & Hackett, 2002).

Most of the research on self-efficacy has been primarily context-specific. As such, people inform their sense of self-

efficacy based on the specific environment where they would perform expected tasks (Multon, et al., 1991; Pajares, 1996) or work-related tasks (Luthans et al., 2006; Stajkovic & Luthans, 1998). For example, students may have high self-efficacy in a mathematics course, but have low self-efficacy in solving complex problems at a large mathematics competition. Most research studies are informed with the prevailing theoretical view that an “efficacy belief is not a decontextualized trait” (Bandura, 1997, p. 42). Yet there is increasing empirical support that context-specific self-efficacy is positively related to a generalized self-efficacy (Judge et al., 2003; Schunk & Pajares, 2004; Smith, 1989) and general self-efficacy is a trait-like construct of a set of expectations people use to determine how successful they believe they can be or perform in a wide range of new and challenging situations (Luthans et al., 2006).

General self-efficacy is “one’s estimate of one’s fundamental ability to cope, perform, and be successful” (Judge & Bono, 2001, p. 80). A person with high general self-efficacy would have a global and stable sense of confidence in his or her ability to handle and effectively manage the necessary tasks in a wide range of demanding and stressful situations (Luthans, Zhu, & Avolio, 2006). General self-efficacy has three components: initiative, effort and persistence. Luthans et al. (2006) explains that “these components help determine how much effort people will expend on an activity, how long they will persevere when confronting obstacles, and how resilient they will be in the face of adverse situations” (p. 122).

The researchers were particularly interested in looking at gender differences because agricultural careers have been traditionally male-dominated, and women have an important role in Iranian agriculture (Khezerloo & Breazeale, 2005). Further, a number of researchers have documented gender differences in domain specific self-

efficacy in the areas of science, technology, engineering, mathematics, and agriculture. Boys and men have higher self-efficacy than girls and women in academic achievement in science, technology, and math (Pajares & Miller, 1994), yet Lent et al. (2005) found male and female engineering students had similar levels of academic self-efficacy. Moreover, Johnson and Wardlow (2004) found no significant differences in computer self-efficacy between male and female students in a college of agriculture. In contrast, Whitley (1997) found American and Canadian men and boys had higher computer self-efficacy than women and girls in his meta-analysis of studies on gender differences.

Research in the context of agricultural education showed that self-efficacy is related to career choice and career commitment. Student teachers who planned to pursue a teaching career in public education were more efficacious than their peers who did plan to become an agriculture teacher (Harms & Knobloch, 2005). Moreover, novice teachers with higher career commitment were more efficacious after the first 10 weeks of the school year compared to their peers with lower career commitment (Knobloch & Whittington, 2003). Although some of this research has resulted in predicting students’ career interests, goals, persistence, and performance (Lent et al., 2005), there remains a need to study generalized perceived self-efficacy in general, and agricultural science majors in particular because of the shortage of human capital in the agricultural disciplines.

To date, more domain-specific self-efficacy has been the center of attention among researchers with limited attention to general self-efficacy. As for general perceived self-efficacy, the authors found limited studies that looked at a general self-efficacy of students. Lindner et al., (2003) in a cross-national study on academic abilities of agricultural and extension education graduate students in Iran found that students

ranked their abilities in following order: (1) perceptual and spatial, (2) idea generation and reasoning, (3) attentiveness and quantitative, and (4) communication. Schwarzer and Born (1997) examined mean differences in the general perceived self-efficacy scores among college students of 13 cultures, and found a significant main effect for culture and gender. This study revealed that culture and gender influenced how students perceived their abilities to succeed in general contexts. Male and female Japanese students had the lowest general self-efficacy, followed by Hong Kong, Chinese and South Korean students. Costa Rican, Peruvian, and Russian students had the highest general self-efficacy. Culture-specific personality dispositions and cultural norms and expectations may explain the differences in self-efficacy among the students in these countries. According to Eden and Zuk (1995) and Judge and Bono (2001), general perceived self-efficacy is predictive of work-related performance. Moreover, general perceived self-efficacy is also expected to be related to job satisfaction and turnover (Judge & Bono, 2001) because researchers have reported a significant positive relationship between job satisfaction and performance (Harter, Schmidt, & Hayes, 2002; Judge, et al., 2001). Thus, it is expected that agricultural students with a high sense of self-efficacy will overcome challenges, be more resilient, and persevere when faced with failure.

Employability is a major obstacle among college of agriculture and natural resources graduates in Iran (Sharifzadeh, & Zamani, 2005). Employers expect college graduates to be proficient in communication, management, and computer skills (Vreyens & Shaker, 2005), and education is the key to developing human resources for the workforce. Researchers have also generated strong support for the influence of general self-efficacy on the career decision-making process of individuals. Given the positive relationship between work performance, career decision-making, and persistence, a

need clearly exists to explore the general perceived self-efficacy among students in colleges of agriculture. Such research would add to the knowledge base in student advising, as well as provide important information for local decision-making.

Purpose and Objectives

The purpose of the study was to describe the level of general self-efficacy among a sample of Iranian students in the college of agriculture entering Razi University in Fall, 2005 semester. The objectives of the study were to: (a) describe the overall general self-efficacy beliefs among students in a college of agriculture, and (b) describe differences in general self-efficacy beliefs among traditional and non-traditional, male and female students enrolled in different majors.

Methods and Procedures

The study was a descriptive survey design. This type of research was grounded in the need to describe and interpret the current status of college of agriculture students' general self-efficacy at Razi University. A survey design was selected because descriptive data can be utilized to produce information about various aspects of education (Gall et al., 2003) which, in turn, leads to empirically-based decision-making to improve education. The population for this study consisted of 750 traditional and non-traditional undergraduate students enrolled in the College of Agriculture. Traditional students were those exempt from tuition, and non-traditional students are those who pay tuition. Independent random samples were generated following the formula set up by Krejcie and Morgan (1970) with a 5% margin of error. A total stratified random sample of 200 students was drawn based on majors in the College of Agriculture. There were 61 students in the Agricultural Extension and Education major, 37 in the Plant Science major, 39 in the Animal Husbandry major, 29 in the Water

Engineering major, and 34 in the Crop Science major. There were more students in the Agricultural Extension and Education major because this department has a longer history in the College of Agriculture.

Generalized perceived self-efficacy was assessed with an existing instrument (Schwarzer & Jerusalem, 1995) with established validity and reliability (internal consistency coefficients have ranged from 0.75 to 0.91; retest-reliability coefficient has been 0.55; Schwarzer & Jerusalem, 1999). The questionnaire was pilot-tested with 40 undergraduate students in the College of Humanities at Razi University who were not in the sample. Cronbach's alpha of reliability coefficient from the pilot test was 0.86. For the purpose of this study, a 10-item version of the questionnaire (see Table 1) was back translated. Students were asked to complete the questionnaire during their short break from classes. The 4-point scale for the questionnaire was: 1 = *not at all true*, 2 = *hardly true*, 3 = *moderately true*, 4 = *exactly true*. The ten-item sum score had a theoretical range from 10 to 40, due to the 4-point summated rating scaled items. Individuals scoring closer to 40 were considered self-efficacious. A confirmatory factor analysis was used to confirm the single factor model (Tabachnick & Fidell, 2007). The data were analyzed using principal components analysis and were rotated orthogonally. The single factor of ten items explained 40% of the variance in general self-efficacy. The limited size of sample may account for the variance explained.

Categorical data were reported as frequencies. Metric data were reported as means and standard deviations. Differences in general self-efficacy based on three independent variables (i.e., sex, classification, major) were determined using *t*-tests and Analysis of Variance (ANOVA). The alpha level was established *a priori* at 0.05. Cohen's (1988) *d* coefficient and indices were computed and reported for effect sizes. The effect size decision

was established *a priori* ($d = .50$; $R^2 = .09$) for medium effect sizes.

Results

A majority of the college agricultural students at Razi University were male (57%), and were classified as traditional (69%). Moreover, five undergraduate curricula were represented in the sample: Agricultural Extension and Education with 61 respondents (30.5%), Plant Science with 37 respondents (18.5%), Animal Husbandry with 39 respondents (19.5%), Water Engineering with 29 respondents (14.5%), and Crop Science with 34 respondents (17%). All agriculture majors were represented and the percentages closely approximated the distribution of majors for all students entering the College of Agriculture.

For the first objective, the researchers sought to determine the overall general self-efficacy among students in the College of Agriculture. Results indicated that students were efficacious in handling challenging tasks in diverse situations. The overall mean score on the 10-item general self-efficacy scale ranged from 14 to 40 with a grand mean of 29.82 ($SD = 5.09$). Schwarzer and Born (1997) found a mean score of 29.65, 29.87, and 20.17 among German, Canadian, and Japanese students, respectively. Students felt more efficacious in items "I can solve most problems if I invest the necessary efforts," "I can always manage to solve difficult problems if try hard enough," and "If someone opposes me, I can find the means and ways to get what I want" (Table 1). However, students felt least efficacious in items "Thanks to my resourcefulness, I know how to handle unforeseen situations," "I can usually handle whatever comes my way," and "I am confident that I could deal efficiently with unexpected events."

Table 1

Frequency (%) of Students Who Responded to 10 Self-Efficacy Items (n = 200)

General Self-Efficacy Items	Not at all true	Hardly true	Moderately true	Exactly true
I can solve most problems if invest the necessary efforts.	2	11	42	45
I can always manage to solve difficult problems if try hard enough.	3	18	51	29
If someone opposes me, I can find the means and ways to get what I want.	6	21	47	26
If I am in trouble, I can usually think of a solution.	8	26	47	19
It is easy for me to stick to my aims and accomplish my goals.	5	26	48	21
I can remain calm when facing difficulties because I can rely on my coping abilities.	2	14	35	49
When I am confronted with a problem, I can usually find several solutions.	6	28	33	32
Thanks to my resourcefulness, I know how to handle unforeseen situations.	5	25	48	22
I can usually handle whatever comes in my way.	2	21	48	28
I am confident that I could deal efficiently with unexpected events.	7	28	47	18

Note. Totals may exceed 100% due to rounding.

The second objective was to determine general self-efficacy belief among students across gender, traditional/non-traditional status, and major. The general self-efficacy mean score for males ranged from 15 to 40 with overall mean of 30.72 ($SD = 4.75$; $n = 114$). However, female students' self-efficacy mean score ranged from 14 to 40 with overall mean of 29.18 ($SD = 5.26$; $n = 86$). Non-traditional students scored 30.30 ($SD = 4.99$; $n = 63$) while traditional students scored 29.6 ($SD = 5.13$;

$n = 137$) on the general self-efficacy scale. The researchers were particularly interested in knowing if students in the various college majors were different in general self-efficacy. Students majoring in crop science felt most efficacious with a mean score of 30.76 ($SD = 5.19$; $n = 34$) while students in plant science felt least efficacious with a mean score of 28.05 ($SD = 5.57$; $n = 37$; Table 2).

Table 2

General Self-Efficacy by Gender, University Classification, and Major (n = 200)

Variable	Category	M	SD
Gender	Male	30.73	4.75
	Female	29.18	5.26
University Classification	Non-traditional	30.30	4.99
	Traditional	29.60	5.13
College Major	Crop Science	30.76	5.19
	Animal Husbandry	30.62	5.29
	Water Engineering	30.24	4.92
	Agricultural Extension and Education	29.86	4.41
	Plant Science	28.05	5.57

Note. Scale: 1 = not at all true; 2 = hardly true; 3 = moderately true; 4 = exactly true. Maximum score on self-efficacy = 40.

Using a separate variance *t*-test with a level of $p < 0.05$, significant differences were found between male and female students on general self-efficacy scores. Males were slightly more efficacious than their female counterparts ($d = 0.31$, $p = 0.03$). The difference was significant with a small effect size (Cohen, 1988). The finding is not in agreement with Hyde's (2005) gender similarities hypothesis. Hyde posits that men and women are similar on many psychological variables. However, this was not the case in this study. The male students were more efficacious than female students, which is likely attributed to the sources of self-efficacy. Self-efficacy is shaped by how students perform course assignments and pre-career experiences, by observing their peers and instructors perform expected tasks, from mentoring and positive feedback, and how they handle their anxieties in challenging situations (Bandura, 1997). Faculty members in college of agriculture at Razi University are mostly male professors and thus they play an active role model for male students. Female students may not see themselves being as successful in food, agricultural, and natural resources careers because these disciplines and industries have been dominated by men and masculine ways of knowing. Moreover,

there were no significant differences between traditional and non-traditional students in terms of general self-efficacy score ($d = 0.14$, $p = 0.38$). Analysis of variance (ANOVA) showed that general self-efficacy scores were not significantly different across different college majors ($F = 1.731$; $p = .14$; $\eta^2 = .38$).

Conclusions, Recommendations, and Implications

Students in the College of Agriculture at Razi University were efficacious as indicated by the range in scores collected using generalized perceived self-efficacy instrument. The Iranian students in this study were similarly efficacious to German and Canadian students (Schwarzer & Born, 1997). Overall, male students were more efficacious than their female peers. Although the gender difference was statistically significant, practical significance should be considered. That is, are the effects found large enough to have practical importance? Although the effect size was small, experts should be able to observe a difference in female general self-efficacy among the Iranian students at Razi University. The difference in generalized sense of self-efficacy among male and female students suggests female students may be experiencing their career

preparation in less effective ways than their male peers. Administrative policies should be reviewed to address ways to be more gender-inclusive and faculty development seminars on how to effectively advise students using the social cognitive career model should be conducted.

There were no significant differences in general efficacy beliefs by university classification (traditional/non-traditional) or college majors. Students were similarly efficacious in a general sense regardless if they paid their own tuition or were in different majors in the college of agriculture. General perceived self-efficacy touches at least to some extent most everything people do to perform tasks in their careers and lives (Bandura, 1984). Agricultural students in this study felt efficacious in general terms such as performing difficult tasks, confronting obstacles, and coping in the face of adverse situations. Although academics and disciplinary experts stress the importance of field-specific competencies among agricultural students (Kang & Bishop, 1989; Mane, 1999), agricultural employers prefer generic skills (Andelt, Barrett & Bosshamer, 1997; Berrie, 2004; Biesma et al., 2006; Bowers-Brown & Harvey, 2004; Crebert et al., 2004; Foster, 1988; Harvey, 2003; Jang & Kim, 2004; Long et al., 1992; Marciel, 1994; Nunan, 1999; Radhakrishna & Bruening, 1994; Stasz, 2001).

Generic skills include analytical and problem-solving abilities which are applicable in various domains and are considered to be a part of general self-efficacy. However, field-specific competencies include knowledge of technical agriculture, which could be reflected as context-specific self-efficacy. In the context of Iranian agriculture, Alibeigi and Zarafshani (2006) concluded that Iranian agricultural employers valued generic competencies relatively higher than field-specific competencies for agricultural graduates entering the agricultural fields. If students in a college of agriculture at Razi

University are efficacious in generic skills, they will be better equipped with fundamental workplace skills, thus contributing to their achievement of short and long-term career goals. Students in all five majors were generally efficacious, which supports that students in specific field of studies can develop general self-efficacy for their future careers. This finding corroborated with another study of Iranian agricultural college students. Rad, Nasrabadi, and Bruening (2005) found Iranian agriculture college graduate felt they had strong scientific and practical skills to perform tasks in their careers. Further, Rad et al. found that only four percent of the graduates felt they had insufficient occupational knowledge and skills.

Professors should consider self-efficacy when developing essential employability skills, such as communication, interpersonal, and problem-solving skills, necessary for the agricultural industry (Zekeri, 2004) for a globalized society (Stewart, 2007). People with high self-efficacy are more likely to function successfully in a global, interdependent society. Developing generalized self-efficacy can help students adapt and succeed in many different situations, both in a general sense as well context-specific. Although self-efficacy is usually domain-specific, self-efficacy beliefs can “form more global and general self-perceptions” (Schunk & Pajares, 2004, p. 119). As agricultural students develop their general career skills, they are simultaneously increasing their confidence in their abilities to perform field-specific competencies required by most agricultural employers. Further studies should investigate the nature and relationship between general and context-specific self-efficacy. Further investigation should determine if general self-efficacy precedes the development of context-specific self-efficacy, and if context-specific self-efficacy affects general self-efficacy. We would argue that students experience specific events that affect their

general self-efficacy, but further investigation is needed to determine if this proposition would be supported.

One implication of this study is that agricultural students with higher general self-efficacy are more confident in their coping ability across a wide range of demanding or difficult situations that results in greater student success. A central emphasis in teaching students should be on developing students' awareness of their self-efficacy through modeling. Structured authentic assignments can help students develop career skills and their self-efficacy when they are guided and supported to successful performances. When students exclaim, "I can do," or "I'll have a go at that," they should be affirmed or coached in order to help develop their sense of self-efficacy. As students increase their self-efficacy, agricultural faculty should integrate more self-directed learning strategies in order to encourage problem-solving techniques, which is a pedagogical cornerstone in agricultural education (Knobloch, 2003). As a result, students will become more self-efficacious in their autonomous learning (Ponton & Carr, 2000).

General self-efficacy should be considered when selecting and preparing student for international experiences. Students with a high level of general self-efficacy are more likely to be equipped with global competency they will have the motivation to solve difficult problems, remain calm when faced with difficulties, be resourceful to handle unforeseen situations, and deal efficiently with unexpected events. High self-efficacious learners tend to survive study abroad programs better than low self-efficacious students (Zhai & Scheer, 2002). Colleges of agriculture in Iran should provide opportunities for students to gain international experience. This is an important implication because global competency is becoming increasingly more important in the competitive global market, and university and colleges are addressing the need for global competency

by adding international learning experiences to their curricula (King & Martin, 1995; Hossain, et al., 1995; Bruening & Frick, 2004; Wingenbach, et al., 2003).

Finally, testing a general perceived self-efficacy in the context of Iranian students permitted cross-cultural validation and generalizability of theoretical links. However, this exploratory study was the starting point for further studies on college student motivation and career development. A major limitation of the current study was measuring general self-efficacy with 10 summated rating items. More items should be identified and developed as a more comprehensive measure of this construct, including context-specific self-efficacy. Future research should focus on differences and relationship between general self-efficacy and context-specific self-efficacy to see if those with higher general self-efficacy would score higher on context-specific self-efficacy. Further investigation is need to understand the influences of social and cultural variables on student learning and self-efficacy (Schunk & Pajares, 2004). Relationships with collective efficacy and other social cognitive career motivation variables such as outcome expectancy, career interest, career intention, career placement, and job satisfaction should be studied. To our knowledge, this is the first time for general self-efficacy construct to be used among Iranian population at Razi University. Further measurements should be conducted among other colleges and universities in Iran to estimate a national norm. Comparisons across colleges of agriculture and majors across universities should be made to determine if gender differences exist, and if the causes are due to cultural expectations, educational practices, or personal epistemologies (Zeldin & Pajares, 2000). Interventions should be considered and implemented to address the gender difference in college of agriculture students' general self-efficacy. Moreover, comparisons should be made among college students and high school students to

determine if there are differences between the two populations.

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