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Suleyman Hilmi Sahin

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Suleyman Hilmi Sahin, Dumlupinar University, Turkey. (e-mail: suleyman.sahin@dpu.edu.tr)

Comparison of Geography Self-Efficacy Levels of Students Taking Geography Course

SULEYMAN HILMI SAHİN

Abstract

In today's education world, the fact that students and teachers have high self-efficacy perception ensures that their education life is more efficient. This study aimed to investigate self-efficacy levels of student candidates who received geography education in Social Sciences Teaching and Geography Teaching at the Geography Departments of Faculties of Science and Arts toward geography learning areas in the curriculum. Geography self-efficacy scale and a demographic information form were applied to the participants. As data were not normally distributed, non-parametric Whitney and Kruskal-Wallis tests were used to compare geography self-efficacy levels among the variables. Research findings revealed that male students' geography self-efficacy levels were higher. In addition, a statistically significant difference was found between the geography self-efficacy levels in the different departments where geography education has been lectured, and these results are discussed in light of the relevant literature.

Keywords: geography, social sciences teaching, geography teaching, self-efficacy perception.

Introduction

Self-efficacy, one of the most important concepts within Social Learning Theory, is individuals' belief of how much they have the necessary knowledge, attitudes and skills to be able to fulfil any task or skill (Bandura, 1977). Self-efficacy perception is associated with their individual judgments about performing actions required so that individuals can cope with possible situations. In other words, self-efficacy is about what people can do, about how much they have attributes required to cope with adverse conditions, and about individual judgment against events (Bandura, 1993). By another definition, self-efficacy is belief in one's own knowledge, skills, attitudes and capacity in order that one can bring one's own learning capacity and behavior to a particular situation (Schunk & Hanson, 1985). Self-efficacy belief indicates the determination somebody demonstrates when an individual is faced with any unpleasant event, and how one can struggle face-to-face with these problems. To put it another way, while someone who is aware of their own abilities is ambitious when struggling against problems, those who are not aware of their own abilities will already give up the struggle. Studies have revealed that self-efficacy perception plays a determining role in terms of different variables such as endeavoring, determination, being assertive and adaptation to changing conditions (Bandura, 1997). An individual with high self-efficacy believes in their own capacity to resolve various problems that one can confront regarding any issue, and reveals this self-belief on condition that one comes up with different solutions. The individuals with low self-efficacy greatly exaggerate difficulties rather than solve the problems, and believe that these are more difficult for themselves than they are expected. On the other hand, individuals with high self-efficacy show a more realistic approach to hard work and different activities (Pajares, 1996; Oktaylar, 2006). One might say that individuals' self-efficacy beliefs are a powerful determinant of their level of achievement. Self-efficacy is composed of four key elements that are connected with each other (Bandura, 1994; Yavuzer & Koc, 2002).

These elements can be listed as indirect experiences, performance accomplishments, emotional state, and verbal persuasion. Self-efficacy level is an important factor that demonstrates how individuals will act in the face of events, situations and difficult periods (Yaman, Cansungu, & Altuncekic, 2004). Individuals with a high belief in self-efficacy work with persistence and put up resistance. However, those with low belief in self-efficacy have the opinion that events are harder for themselves than expected, and that they cannot successfully complete their works or precisely resolve their problems since they look from a narrower perspective (Kaptan & Korkmaz, 2002). Based on the opinion that belief that people cannot reach the goal they desire with their efforts adversely affects their achievements, it can be said that self-efficacy belief is a critical factor in success, thus guiding their life through people's personal competence (Bandura, 1997). However, it can be said self-efficacy perception is effective in individuals motivating themselves and determining the behaviors they will exhibit (Bandura, 1994). Zimmerman (2000) stated that individual's performance has the same effect as one's own expectations and self-efficacy perception is one of the most significant factors that mobilize and motivate somebody. When we ourselves think of starting to work, we firstly consider whether or not we can achieve that work. Our thoughts, namely, our personnel perceptions directly affect our behaviors, actions we want to perform in the future and our performance in these actions. Therefore, that we

firstly have positive thoughts about this work in order to start to work and continue successfully will positively influence the success.

Individuals' ability to succeed is more closely related to how much they are aware of their own talent, than the talent they have to achieve something in real terms. This is because there are significant differences between having skills and using them effectively in an environment where various other types of variables exist. Just because of this reason, some may have failed in some instances, where individuals with different abilities cannot firmly believe in their skills. What is important here is to be aware of different inherent abilities and to act in accordance with these capabilities, rather than to have the ability to perform any action. On the other hand, self-efficacy belief is an important source of motivation for individuals in the process of making the decision to perform any task and action. Our positive or negative thoughts about our own capacity positively or negatively affect the results of acts we plan to carry out in the future. Self-efficacy belief, which is very important for success in individuals, also plays a great importance for teachers. This is because teachers direct the teaching-learning process and have an effect on the development of students from academic, social and psychological aspects.

Therefore, high self-efficacy perceptions of teachers who affect different dynamics of society will also positively influence the education. When considered from this point of view, high self-efficacy levels of teachers will positively affect the effectiveness of the education (Hazir-Bikmaz, 2004; Buran, 2013; Azar, 2010). Self-efficacy expressed plays an important role in the regulation of motivation (Bandura, 1991); in fact, it is a psychological process in which children are extremely effective in gaining new knowledge, skill and experience, and transferring them to different situations (Dweck, 1986). Students have a sense of self-efficacy, as well as purpose of the learning, at the beginning of a learning activity (Zimmerman, 2000). Self-efficacy level of the students supports their learning, facilitates their motivation and ensures their continuity of motivation (Schunk, 2003). Thus, self-efficacy is one of the most important factors in the learning process (Sohrabi, Mohammadi, & Aghdam, 2013). Self-efficacy belief positively or negatively affects students' eagerness to learn. Students with low self-efficacy belief are less eager to learn and cannot completely devote themselves to the requirements of the learning. So, they can have a feeling of giving up the learning action rather than coming up against it or making an effort in order to overcome this situation when faced with any difficulty (Bandura, 1993).

When low self-efficacy in the students takes a long time, learned helplessness may occur. For this reason, self-efficacy belief and knowing the main factors influencing this belief will positively affect the learning process. If it is known what the source of self-efficacy belief in the students is, and the extent to which these sources affect self-efficacy belief, their self-efficacy beliefs about learning and performance can also develop in a positive manner. Self-efficacy beliefs also have a powerful influence over decision-making and complex learning processes. Bandura (1997), Saricam and Sakiz (2014) stated that an individual's self-efficacy perception not only directly affects his action and selection, but can influence his expectations of success, motivation and effort as well. Self-efficacy expectancy determines how individuals will struggle against difficulties and obstacles they will face and how much effort they put forth. Therefore, individuals with a strong self-efficacy perception put in the greater effort.

Considering earlier studies (Capa, Cakiroglu, & Sarikaya, 2005; Chemers, Hu, & Garcia, 2001; Ekinci, 2012; Pajares, 1996; Sahranavard & Hassan, 2012; Saricam & Sakiz, 2014; Tschannen-Moran & Hoy, 2001), there are various studies about self-efficacy. Studies about the field of geography for geography teachers, teacher candidates and social sciences teachers were examined. However, the aim was to present a different, original study about students who received geography education at different universities. The main goal of the research desired to reach, within the frame of literature and methodology examined, an answer to the question "What is the general situation of self-efficacy levels of students who received geography education at different universities, or in other words, of students who will provide geography education in the future in the area of geography?"

In accordance with this main goal, answers will be sought to the following questions:

- In there any difference in the self-efficacy levels of geography of students who received geography education in different departments in terms of sub-dimensions?
- In there any difference in the self-efficacy levels of geography of students who received geography education in different departments by gender?
- In there any difference in the self-efficacy levels of geography of students who received geography education in different departments according to their type of school?

Methodology

This study aimed to determine self-efficacy levels of geography courses of students who received geography education for Social Sciences Teaching and Geography Teaching, from the Geography Departments of the Faculty of Science and Arts. Quantitative data collection and analysis were performed by using descriptive survey model. Survey method, which is one of non-experimental quantitative research methods, was used (Johnson, 2001; McMillan & Schumacher, 2010). The study group was composed of students who have been studying in Dumlupinar University's Faculty of Education as a Social Studies Teacher, Marmara University's Faculty of Education as a Geography Teacher, and Suleyman Demirel University's Faculty of Science and Arts. The study aimed to reach all target populations. Data were collected on a volunteer basis. It is known that geography subjects were taught at certain periods in the curriculum of different departments at these universities. The data obtained from 501 students with different socio-economic levels were analyzed in the study. Table 1 shows the data collected, grouped according to school and gender.

As shown in Table 1 regarding gender distribution, 47.3% and 52.7% of participants consisted of females and males, respectively.

Table 1. Schools Applied Self-Efficacy Scale to Geography.

School Name	Male	Female	Total
Dumlupinar University	95	110	205
Suleyman Demirel University	109	84	193
Marmara University	60	43	103
Total	264	237	501

Considering that the schools applied the self-efficacy scale to the geography field, and the fact that the schools are located in three different regions, with students from different places around the country, demonstrates that the sampling is significant. Considering the number of students participating in the study, the ratio of female/male students is close, and shows that this ratio is valuable in representing gender.

The self-efficacy scale developed by Karadeniz (2005) was used as the data collection tool for the geography field in this study. The self-efficacy scale for geography was developed as Likert-type, 5-point rated scale consisting of 19 items. Calculation to find the internal consistency score of the scale showed that Cronbach's alpha reliability coefficient is 0.80, with a significance level of 0.05 (Karadeniz, 2005). Self-efficacy levels of the students in this scale have been demonstrated in three sub-scales. These sub-scales are categorized as geographical sense of self (items 1-8), being able to transform the geography into life skills (items 9-12), and awareness of behavior in the geography field (items 13-19). The total score of Cronbach's alpha reliability coefficient was calculated as 0.89. Suitability of the specified variables for this study was controlled by two experts. The scale was applied without the need for any changes after receiving expert opinions and obtaining the necessary written permission from the scale-owner.

An analysis of the data was firstly conducted to determine whether or not the data was normally distributed. The mean and standard deviation values were calculated to determine the levels of students' self-efficacy in the self-efficacy scale of the geography field. Demographic data (gender and school) are presented in Table 1. Mann-Whitney U Test was employed to establish whether or not there is a significant difference in the self-efficacy levels of university students by gender in the self-efficacy scale of the geography field. Kruskal-Wallis H Test was used to determine if there is a significant difference in the self-efficacy scale of students according to the variable school. In this study, the level of statistical significance was considered as 0.05, and software package was used for the data analysis.

Findings

The following results were obtained in light of the study's data, with the results discussed based on the literature. Results are presented and evaluated in Table 2 and Table 3. As also stated in the methodology section, the scale was created with items in three sub-dimensions of "geographical sense of self", "being able to transform the geography into life skills", and "awareness of behavior in the geography field".

Table 2. Mann-Whitney Test Results according to Self-Efficacy Scale and Gender Variable for Geography Field

		Group	N	Mean	Total	U	Z
Self-Efficacy Scale of Geography Field	Geographical sense of self	Female	237	222.79	52,802.00	24,599.00	-4.14*
		Male	264	276.32	72,949.00		
	Being able to transform the geography into life skills	Female	237	245.59	58,205.50	30,002.50	-.80
		Male	264	255.85	67,545.50		

Awareness of behavior in the Geography field	Female	237	239.30	56,714.50	28,511.50	-1.72
	Male	264	261.50	69,036.50		
Total	Female	237	230.58	54,647.00	26,444.00	-2.99*
	Male	264	269.33	71,104.00		

*p< .05

It has been established that there is a significant difference between the total scores of self-efficacy of geography and the geographical sense of self scores in terms of gender in the self-efficacy scale of geography for university students who received geography education (Total U=26,444.000, geographical sense of self U=24,599.000). In other words, it was found that the total scores and geographical sense of self score of male students in the self-efficacy scale of the geography were higher than that of their female counterparts. It can also be said that male students' self-efficacy is more than that of female students in the self-efficacy scale of geography for university students who received geography education.

Table 3. Kruskal Wallis-H Test Results according to Self-Efficacy Scale and School Variable for Geography Field

	School name	N	Mean	df	X ²	p	Difference
Geographical sense of self	DPU	205	230.28	2	7.559	.023*	-
	SDU	193	261.40				
	MU	103	272.75				
	School name	N	Mean	df	X ²	p	Difference
Being able to transform the geography into life skills	DPU	205	236.58	2	3.500	.174	-
	SDU	193	260.92				
	MU	103	261.11				
	School name	N	Mean	df	X ²	p	Difference
Awareness of behavior in the Geography field	DPU	205	241.95	2	4.270	.118	-
	SDU	193	267.73				
	MU	103	237.66				
	School name	N	Mean	df	X ²	p	Difference
Total	DPU	205	235.41	2	4.780	.092	FSE Geography – Social Sciences Teaching, Social Sciences Teaching – Geography Teaching
	SDU	193	267.12				
	MU	103	251.82				

The Kruskal Wallis test results suggest that there was a statistically significant difference in students' total scores of geographical sense of self obtained in terms of school variable in the self-efficacy scale of geography.

It has been determined that there is no significant difference between the total scores of self-efficacy of geography of university students who received geography education according to school variable ($H_{(2)}= 4.780$, $p > 0.05$). Similarly, no significant difference was found between the scores of being able to transform the geography into life skills and the scores of awareness of behavior in the geography field according to the school variable in the self-efficacy scale of geography ($H_{(2)}= 3.50$, $p > .05$; $H_{(2)}= 4.27$, $p = .118$). It was determined, however, that there was a statistically significant difference between the geographical sense of self scores of participants ($H_{(2)}= 7.56$, $p < .05$). Mann-Whitney U test was performed to find out which group or groups this difference derives from. The level of statistical significance was accepted as 0.0167 for all effects by applying the Bonferroni correction. It was observed that there was a statistically significant difference between the scores of self-efficacy of geography of students who received Geography education in the Faculty of Science and Arts, Department of Geography and the scores of self-efficacy of geography of students received geography education in Social Sciences Teaching ($U= 17,209.0$, $p < .05$). It was also noted that there was a statistically significant difference between the scores of self-efficacy of geography of students who received geography education in Social Sciences Teaching and the scores of self-efficacy of geography of students who received geography education in Social Sciences Teaching ($U= 8,882.5$, $p < .05$).

Conclusion and Discussion

In the light of these results, survey results were evaluated for self-efficacy of geography applied to establish the self-confidence levels of students who received geography education in different universities. These results revealed there to be a statistically significant difference according to the variables of gender and school. The reason(s) for this difference or situation can be examined thoroughly by using different methods and data collection tools.

Teacher candidates' levels of self-efficacy perception in geography education are a critical factor. It seems that a series of classroom activities in geography, for teacher candidates receiving geography education and who will lecture on geography topics in the future and their relationship with students are related to their self-efficacy. It is expected that geography educators with high self-efficacy belief will pay attention to student-centered activities, turn to field surveys and trip-observation activities, make good use of the time and encourage students to undertake research. Their interest in geography lessons may increase students' levels of self-confidence, having received geography education in different universities themselves, and therefore, students can be encouraged to participate in the training with various activities. Finally, it can be important to make geography courses more attractive for the purpose of improving students' self-efficacy in the area of geography.

The study was conducted in the descriptive research group in terms of the method. When viewed from this aspect, research results are considered to be helpful in establishing current shortcomings, thus overcoming them in the process of geography education. Previous studies revealed no significant difference between school scores in the self-efficacy scale of geography applied to different department students (Karadeniz & Ozdemir, 2006; Colak, Altinkurt, & Yilmaz, 2014); however, this study reported that there was a significant difference between the schools, suggesting that it showed similarity to some earlier studies (Cimen, 2007; Buran, 2012; Coskun, 2007; Yilmaz, 2013; Hosgorur & Apikoglu, 2013;

Karadeniz, 2011) in terms of gender. This result indicates that male student candidates' scores of geography self-efficacy were higher than those of their female counterparts.

This study has been carried out based on the assumptions that the data collection tool is practicable in accordance with the purposes of this study and that students answered questions in the scale in an impartial and sincere manner. This study includes students who received geography education in different universities and was limited to students studying in Marmara University, Suleyman Demirel University, and Dumlupınar University in Turkey.

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