

## Statistical Self-Efficacy Beliefs among Pre-Service Mathematics Teachers: The Case of Palestine

### Matematik Öğretmen Adaylarının İstatistik Öz-Yeterlik İnançlarının İncelenmesi: Filistin Örneği

Emin AYDIN\* 

Eyüp SEVİMLİ\*\* 

Saja ABED\*\*\* 

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**ABSTRACT:** One of the most concrete reflections of mathematics in real life is statistic domain and it is frequently mentioned in the related literature that students have difficulty in statistics concepts. The development of statistical concept knowledge is important for both statistical and scientific literacy. This study aimed to determine pre-service mathematics teachers' self-efficacy beliefs in statistics. The study is about the Palestinian context. Any data about the Palestinian education is valuable as there is so little research in the literature about the educational research done about Palestinian educational system. The present study was conducted with a total number of 100 pre-service mathematics teachers who were in their last academic year in the mathematics department of two Palestinian universities. Data was collected by the Statistics Self-Efficacy Belief Instrument. Descriptive statistics was used in data analysis. Data analysis showed that the participants had low to moderate level of self-efficacy beliefs in statistics. The difficulties faced by the pre-services mathematics teachers with low self-efficacy beliefs in the teaching of statistics concepts are discussed and the suggestion of remedial solutions for teaching content and teaching environment is shared.

**Keywords:** statistics education, teacher training, self-efficacy.

**ÖZ:** Matematiğin gerçek yaşamdaki en somut yansımalarından biri de istatistik alanıdır ve ilgili literatürde öğrencilerin ve matematik öğretmen adaylarının istatistik kavramlarını anlamada zorlandıkları sıkça dile getirilmektedir. İstatistik kavram bilgisinin geliştirilmesi hem istatistik hem de bilim okuryazarlığının geliştirilmesi açısından önem arz etmektedir. Bu çalışma, matematik öğretmen adaylarının istatistik öz-yeterlik inançlarını belirlemeyi amaçlamıştır. Çalışma Filistin bağlamı ile ilgilidir. Filistin eğitimine ilişkin herhangi bir veri, literatürde Filistin eğitim sistemi hakkında yapılan eğitim araştırması hakkında çok az araştırma olduğu için özel bir önem taşımaktadır. Bu çalışma, son akademik yılında Filistin devlet sınırları içerisinde bulunan iki ayrı üniversitesinin matematik bölümünde kayıtlı olan toplam 100 matematik öğretmeni adayını ile gerçekleştirilmiştir. Veriler İstatistik Öz-Yeterlik İnanç Envanteri tarafından toplanmıştır. Veri analizinde tanımlayıcı istatistikler kullanılmıştır. Veri analizi, katılımcıların istatistikte düşük düzeyle orta düzey arası öz-yeterlik inançlarına sahip olduklarını göstermiştir. Makalede, düşük öz-yeterlik inancına sahip öğretmen adaylarının istatistik kavramlarının öğretiminde karşılaştıkları zorluklar tartışılmakta, öğretim içeriği ve öğretim çevresine yönelik çözüm önerileri paylaşılmaktadır.

**Anahtar kelimeler:** istatistik eğitimi, öğretmen eğitimi, öz-yeterlik.

\* Corresponding Author: Assoc. Prof. Dr., Marmara University, İstanbul, Turkey, [eyaydin@marmara.edu.tr](mailto:eyaydin@marmara.edu.tr), <https://orcid.org/0000-0003-4298-2623>

\*\* Assoc. Prof. Dr., Gaziosmanpaşa University, Tokat, Turkey, [eyup.sevimli@gop.edu.tr](mailto:eyup.sevimli@gop.edu.tr), <https://orcid.org/0000-0002-2083-688X>

\*\*\* Student, Marmara University, İstanbul, Turkey, [saja\\_abed@hotmail.com](mailto:saja_abed@hotmail.com), <https://orcid.org/0000-0002-9460-1303>

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## Introduction

Teachers of mathematics have responsibilities to make their students ready for solving the problems faced in their work and outside-work environments. Statistics is concerned in collecting, presenting, analyzing and interpreting data using tools such as numbers, tables, graphics and formulas (Bryman & Cramer, 2011). It has great effects on other branches of science (Jolliffe, 1976). Discussions on international platforms have shown that statistics, as well as basic mathematics education, is another important issue (Garfield & Ben-Zvi, 2008). Over the past 50 years, statistics have become a subject of increased emphasis in everyday life and work environments. It is an important issue nowadays that data about human behavior is collected and used as data sets, especially with the use of technology. In a society that is so much based on handling data every person in life needs to develop statistical skills. Hence, the ability to collect, analyze and interpret data will become a highly sought after skill in business life over the next decade. Statistics education topics have been included in curricula of many countries over the last 30 years. In addition, some countries (e.g., USA and UK) have begun to give more importance to statistical literacy in secondary and high school teaching objectives in the last decade. In the two reports published by American Statistical Association for undergraduate and graduate statistics education, i.e. "Guidelines for Assessment and Instruction in Statistics Education" (GAISE), the emphasis is on the importance of statistical thinking as a problem-solving and decision-making process, focusing on concepts and using real data, contexts and technology integration in the process (GAISE, 2005; GAISE, 2016). When researches on statistics education are examined, various studies about the effect of different teaching approaches (e.g., project based learning, technology based learning, etc.) on statistical literacy and the development of statistical thinking levels are encountered (GAISE, 2005; Garfield & Ben-Zvi, 2008; Jolliffe, 1976; Koparan & Güven, 2013; Sevimli & Aydın, 2017). It is also necessary to examine the process of learning statistical concepts cognitively and to evaluate the difficulties experienced in statistical subjects in relation to affective factors. There are many sources for the difficulties of statistical education from the pedagogical aspects. Some of the difficulties mentioned in the related literature are presentation of the statistics contents with formula-based approaches, which are interrelated with daily life, and beliefs about the teaching and learning of statistics in the affective domain (Sevimli & Aydın, 2017).

In order to obtain effective results in the learning and teaching process, attention should be paid to the affective domain competencies of the learners and teachers as well as their cognitive competencies (e.g., self-judgment for thinking about completing a task). In this context, attitude, belief, anxiety and self-efficacy are among the affective domain competencies that receive attention (Peker, 2016; Ural, 2015). People with high self-efficacy have a high ability to face the challenges and perform the necessary skills to overcome them (Bandura, 2001). Students judge their efficacy for learning as a function of mental effort needed (Salomon, 1984). An individual with high level of self-efficacy is different in his way of thinking, emotional response and selecting activities from other people who has less self-efficacy (Çoban & Sanalan, 2002). A person with high self-efficacy has the ability to rearrange the surrounding circumstances to be successful in spite of the social, psychological or physical difficulties. A teacher gains self-efficacy from daily classroom activities. Self-efficacy increases with

experience that gained from teaching years and skills (Wolters & Daugherty, 2007), as a result, teacher's self-efficacy becomes stable once it is established (Bandura, 1997).

Self-efficacy in a mathematics classroom emerges from three elements: self-efficacy in solving mathematics problems, self-efficacy of being successful in classroom mathematics, and self-efficacy in using daily math calculations properly (Pajares & Miller, 1994). Students need to feel that their teachers' knowledge of and self-confidence in the subject are satisfactory (Skaalvik & Skaalvik, 2007). That way, they would accept the knowledge given by their teacher. A low self-efficacy might also lead to a low teaching performance, which in turn results in poor conceptual understanding in students. Moreover, high self-efficacy of mathematics teachers can have an influence on reducing students' misunderstandings (Peker, Erol, & Gültekin, 2018). In spite of the epistemic differences between mathematics and statistics (Rodgers, 2010), scientific knowledge gathered about self-efficacy in mathematics can be used in the area of statistics. There is not much domain specific knowledge about the sources for low self-efficacy in statistics. For instance, evidence suggests that low self-efficacy is an important problem also in statistics especially when solving problems (Hall & Vance, 2010; Onwuegbuzie & Wilson, 2003). Assessment of understanding and measurement of performance in a school subject is a difficult task. In the assessment of understanding of mathematical concepts, there always are loss of information even during the most effective form of teacher-learner interaction. In classroom conditions, it is even more difficult. Similar problem exists in the case of measurements of problem solving and quantitative reasoning skills. The discrepancy between levels of learning based on learners' own accounts and teachers' assessments can be ignorable in actual practice. Hence, self-efficacy presents an opportunity for the obtainment of indirect data about the existence and level of understanding and/or performance in a given concept/task.

### **The Palestinian Educational Context**

The review of research literature in mathematics teaching and learning by trying variety of keywords including 'self-efficacy', 'conceptual understanding and 'assessment' gave little to nothing. It is important to state that there is a shortage of documented knowledge regarding the educational issues in Palestine. The knowledge that was gathered by the authors, about the statistics education in the country are based on the experiences of the third author. There are a total of 15 universities in The West Bank and Gaza Strip, almost all of which have faculties of education. The teacher training programs in Palestine are available in faculties of education. The three of them contain programs that give a bachelor's degree for mathematics teaching (i.e. Al-Quds University, Al-Quds-Open University and An-Najah University). One of the programs is a distance education program named as "Mathematics and its Teaching Methods" which is available in the Faculty of Educational Sciences of Al-Quds Open University. All of these are four year programs and graduates of these programs are considered eligible for being a mathematics teacher in the state schools.

The first time Palestinian students face statistical concepts is in the ninth and tenth grades. The learning units in the high school cover the introductory concepts including the measures of central tendency and measures of central discrepancy. In the first year of the university education in Palestine, there is a common course called the

introduction for statistics, which is obligatory in most of STEM and some of non-STEM areas including science, medicine, business, economics and mathematics. The aim of this course varies according to the needs of the area, but in general aim is making students reach a satisfactory level of statistical competence. Medical students, for example; have a biostatistics course which allows them to be able use statistics in their practices in medicine. In the undergraduate programs in economy and engineering have more than one course in their curricula. In the area of mathematics and its education, there is an introductory statistics course in the first semester and there is an advanced course in statistics and probability in later semesters. The weight of this course is on probability for the pure mathematics majors and is on statistics for the applied mathematics majors. There is also one graduate pure statistics program in a state Palestinian university, i.e. An-Najah University. There is only one mathematics teacher training program in Palestine which contains one course in statistics, which covers the introductory concepts. This content of this course is similar to the educational statistics course in the teacher training programs in Turkey.

### **Theoretical Framework**

Self-efficacy is one of the key concepts that are subject to Bandura's (1977) social learning theory. According to the social cognitive theory, learning of students directly correlates to the observation of their teachers in the classroom (Vygotsky, 1978). In this respect, self-efficacy among teachers is very important in the teaching system as students trust the information delivered by the teacher. Self-efficacy is a measure of how long someone can persevere to achieve a planned target (Bandura, 1997). According to Schunk (1991), self-efficacy is individuals' judgment of their ability to perform a given skill. Self- efficacy is to be ready to do the required activities and well measured skills to accomplish a task (Pajares & Kranzler, 1995).

As it is difficult to predict performance in a given area (due to difficulties in accurately measuring performance), motivational variables such as self-efficacy proved to be very useful in predicting the performance in that area. There have been arguments about the efficiency of the construct in general areas (e.g. self-efficacy in teaching mathematics) (Finney & Schraw, 2003). Such an approach can be ineffective if the area under study has a high degree of specificity (Pajares, 1996). For example, 'teaching mathematics' is a wide construct which is composed of many sub-constructs (Schulman, 1987) that cannot be measured with a few scale items. In a domain-specific context such as statistics, there is a need for the contextualization of the self-efficacy judgments (Pajares, 1996). It is not a proper strategy to adapt a mathematics self-efficacy scale to obtain a statistical self-efficacy scale for two reasons: Firstly, statistics and mathematics are epistemologically different in that statistics deals with uncertainties as opposed to mathematics. Secondly, statistics has wide a range of concepts each needs to be dealt with separately.

In this study, as a result, for the operational definition of statistical self-efficacy beliefs, we decided to adapt Bandura's (1986) definition (cited in Başpınar & Peker, 2016) to define self-efficacy as 'predispositions of people about their own capacities to organize and apply the activities for the accomplishment of a statistical task'.

### **Aim of the Study**

Any data about the Palestinian education is valuable as there is so little research in the literature about the educational research done about Palestinian educational system. There are also almost no studies in the field of mathematics education as indicated by the national (Libraries of An-Najah, Al-Quds, Beirzeit and Al-Quds Open Universities) and international databases. Naturally, there is no study about cognitive and affective dimensions of mathematics education (e.g. statistical understanding, self-efficacy, and mathematics or statistics self-efficacy). The general focus of the study is the learning of statistics. Statistics is an important element of the training program for students in psychology, engineering, education and other STEM and some non-STEM areas. Moreover, there is evidence that statistical misconceptions are a major problem among pre-service teachers (Sevimli, 2010). Hence we think that low self-efficacy is worth examining as a potential source for misconceptions in pre-service teachers.

The curricular emphasis on probability and data analysis is increasing over the last two decades. Statistics is an area of knowledge that stands out in terms of skills in the 21st century. It is expected that 21st century statistical literacy will be a major skill (Rumsey, 2002). To be able to educate the individuals who have advanced skills in statistics for the next generation, it is important that the mathematics teacher candidates have the necessary knowledge base for statistics. This study is important because it focuses on a topic that gains interest (i.e. statistics) in a region where educational research is limited. Under the light of these issues, in this study, researchers aimed to measure the current self-efficacy levels of Palestinian pre-service teachers. Because one of the important components of statistical literacy is statistical self-efficacy, we specially focused on Palestinian teacher candidates' self-efficacy levels, which is a potential indicator of their performance in statistics. The study problem can be explained by the following research question:

- What are the Palestinian pre-service mathematics teachers' self-efficacy levels in statistics?

### **Methodology**

This section explains the research design, data collection method, population, sample, study instruments and the statistical analysis methods that were applied to get the results of the study. In this research a quantitative paradigm was chosen which is based on the positive verification of the results that gained from the scientific experiences. The aim of this study is to measure the levels of self-efficacy of pre-service mathematics teachers. For the purpose of an inquiry, a commonly used classification distinguishes between exploratory, descriptive, and explanatory (Robson, 1993, p.42). Descriptive and explanatory purposes predominate in this study. When designing an inquiry, it is also important to have a strategy. In this study survey was the data collection strategy.

### **Participants**

The population of this study was a group of pre-service mathematics teachers in the Palestinian universities. In order not to cause bias in choosing the sample of the study, a systematic random sampling was made: students were chosen randomly from two Palestinian universities according to their identity cards, the students who were

selected are the ones who had odd numbers in the last digit in their identity cards. This method allows us to select students randomly and each student had the equal probability of being chosen. The sample of this study was the pre-service mathematics teachers who finished their courses in statistics. The sample of the study consists of two parts: first part consists of a randomly selected 40 pre-service mathematics teachers as individuals who were involved in the calibration of the self-efficacy scale. The second part of the sample consists of another 100 pre-service mathematics teachers who were also randomly selected from the same universities. These teachers were examined using the self-efficacy scale.

### **Data Collection Tool**

There have been many efforts to measure academic self-efficacy levels in different areas (Aydin & Sevimli, 2019; Bong, 1998; Holden, Barker, Meenaghan, & Rosenberg, 1999, Schunk & Pajares, 2005; Silver, Smith, & Greene, 2001; Sevimli & Aydin, 2017). In statistics the internationally known self-efficacy measuring instrument was developed by Finney and Schraw (2003). The questionnaire, developed by Finney and Schraw (2003), adapted to the different languages and their results in different cultures were shared in the related literature.

The aim of this study is to investigate self-efficacy levels of Palestinian pre-service mathematics teachers. In order to do that, there is need for a self-efficacy scale to be used in the Palestinian context. Hence, we measured the self-efficacy levels by using an efficacy scale which was adapted from its original English version. Hence the aim of the study is to measure the level of statistical self-efficacy levels of Palestinian pre-service mathematics teachers. Due to the arguments stated in the theoretical framework section, we preferred to use an instrument for measuring statistical self-efficacy that uses a domain-specific approach. Current Statistics Self-Efficacy Scale (CSSE) is a 14 items instrument which was developed by Finney and Schraw (2003) was positively correlated to mathematics self-efficacy and attitudes towards statistics (see Appendix A for CSSE items). The items of CSSE are content-specific. That is, they are not adaptations from a mathematics self-efficacy instrument. Each of its items are about the different concepts and skills about doing statistics. In the instrument, a six-point Likert scale ranging from “no confidence” at all to “complete confidence” was used for all items.

### **Validity and Reliability**

In the present study we report findings from the Statistical Self-Efficacy questionnaire. This questionnaire is based on a six-point Likert type scale which contains 14 items. The reliability of the original questionnaire had an internal reliability value of 0.91 (Finney & Schraw, 2003). To be able to use the instrument in a sample different from the original one, it is important to calibrate it, that is, to ensure that it has satisfactory reliability and validity values. The value of 0.80 of the present instrument satisfies the reliability condition (Kline, 1999). In order to measure the validity of the CSSE the KMO and Bartlett’s methods for the confirmatory factor analysis were used which verified the 2-factor structure of the original instrument.

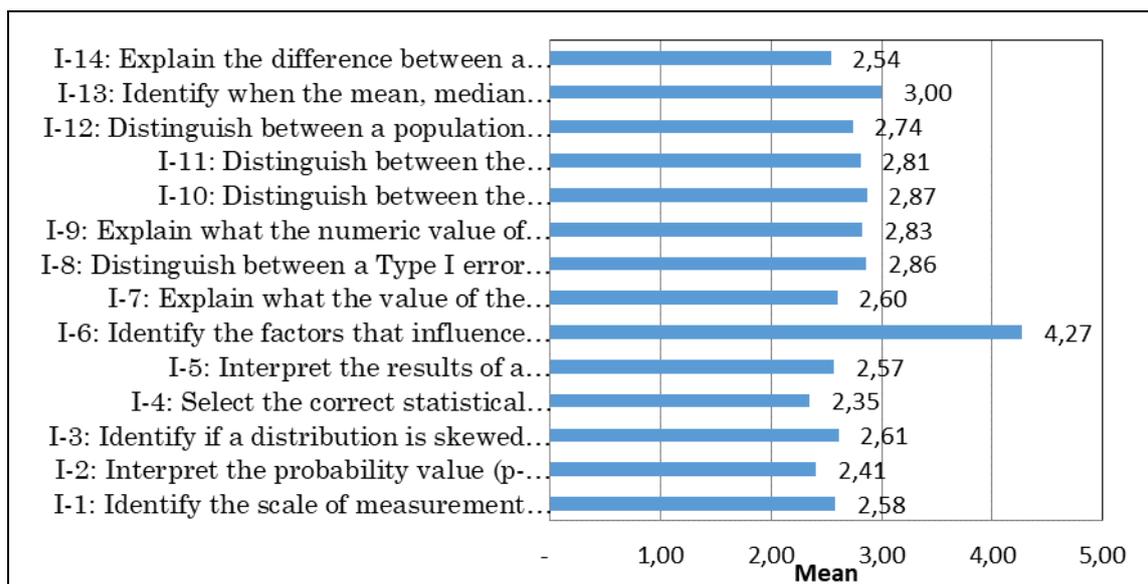
## Data Analysis

The CSSE applied to the study group was transferred to a statistical program and analyzed in terms of the score average of each item, the degree of difficulty according to the items, and the level of success of the test (Low, Moderate, and High). While the relative evaluation was made according to the academic achievement, a standard deviation score was added and subtracted to the mean and three groups were formed (James, Witten, Hastie, & Tibshirani, 2014). To investigate the research question a descriptive analysis was made which involves the calculation of frequencies and percentages.

## Results

The distributions of the findings obtained from the CSSE according to the mean results of each items are presented in Figure 1. The mean score for the whole test is 2.78 showing a mediocre self-efficacy towards statistics. The result of the analysis as shown in Figure 1 also indicates that I-4 “selecting the correct statistical procedure” had the lowest self-efficacy score among the items with a value of 2.35. This item measures if a student have the enough self-efficacy in his statistical knowledge about statistical hypothesis tests such as: t-test, z-test, paired comparison t-test and other statistical tests and also measures his self-efficacy to differentiate between those tests and the fields in which they can be applied. On contrast, I-6 “factors that influence statistical power” is the item on which participants show the highest self-efficacy (4.27). According to the given answers to the CSSE, the total score for the mean has been calculated and it was 2.79 and the total score for the standard deviation is 1.04 (see Appendix B for total mean and standard deviation scores). The one following the highest score is in the item concerning the uses of the measures of central tendency (3.00). The gap between the first and second highest items is quite big ( $1.27 = 4.27 - 3.00$ ).

**Figure 1.** Mean Results of the CSSE



The results showed that the first point (no confidence at all) had a frequency of (186) with a percentage of 13.3% of the total answers. Sixth point (complete

confidence) had a frequency of 30 with a percentage of 2.2% of the total answers which was the lowest percentage as shown in Table 1. The table also shows that the second point (a little confidence) obtained the highest frequency with a value of 441 and a percentage of 31.5% of the total answers.

Table 1

*Results of the CSSE Analysis*

	1	2	3	4	5	6
	<i>NC</i> <sup>1</sup>					<i>CC</i> <sup>2</sup>
Frequency	186	441	411	237	95	30
%	13.3	31.5	29.3	16.9	6.8	2.2

<sup>1</sup> No confidence

<sup>2</sup> Complete confidence

As the questionnaire consists of 14 items for all items a six-point Likert scale ranging from 1 to 6, so the highest score that can be obtained is 84 and the lowest score is 14. For this study sample the highest obtained score was 47 which is a mediocre score, and the lowest score was 28 which is a low score. Table 2 shows frequencies and percentages for participants' scores separated into intervals ranging from 14 to 84. When determining the success levels in the test, positioning according to the average in the normal distribution curve is taken as a reference (James, Witten, Hastie & Tibshirani, 2014). Scores between 14 and 37 are considered to be low, scores between 38 and 61 are considered to be moderate, and scores between 62 and 84 are considered to be high.

Table 2

*Participants' Scores in the CSSE*

Interval		<i>f</i>	%
14 –37	Low	35	35
38 –61	Moderate	65	65
62 –84	High	00	00

As shown in Table 2, 35% of the students' scores are ranging between 14 and 37, and the remaining scores are ranging between 38 and 61 with a percentage of 65%. The results also show that there are no scores more than 62 which mean that the Palestinian pre-service mathematics teachers' self-efficacy level is moderate in statistic course. Hence, 65% of the participants had mediocre and 35% of the participants had low self-efficacy scores.

## Discussion and Conclusions

The present study reports on the self-efficacy levels of the pre-service Palestinian mathematics teachers in statistics. Results obtained from this study can form a basis to understand the psychological barriers regarding the learning of statistical concepts. The findings of this study, suggested overall that Palestinian pre-service mathematics teachers do not have high self-efficacy in statistics. There is no participant who scored within the high self-efficacy range (Table 2). Highest possible CSSE score is 84 and the highest score in this study is 42. This score is much below the Sevimli and Aydın (2017) and Finney and Schraw (2003) studies. The concepts which are thought to have an effect on the low self-efficacy scores of the participants are as follows; *i*) deficiencies related to content knowledge, *ii*) attitudes of teachers related to the importance of statistical learning-teaching and *iii*) the place of statistical concepts in related education policies. In terms of content knowledge; the highest self-efficacy of the Palestinian teacher candidates is obtained in the item concerning the meaning of statistical power. Statistical power is a concept explaining the real effect of the independent variable on the dependent variable in a statistical experiment (Pagano, 2012). This is surprising because, this concept is generally perceived as a difficult one by the students (Huck, 2011). Moreover, in the American (Finney & Schraw, 2003) and the Turkish (Sevimli & Aydın, 2017) samples, the score of the item is below the scale average in both studies. When teachers' attitudes on statistics and its place in the education system are taken into consideration, it is seen that data processing concept is included in the mathematics program as a beginning statistical subjects from 9<sup>th</sup> grade onwards, and the statistics courses are given in the teacher training program. The inclusion of statistical topics in the upper classes and the limited content of the curriculum could have influenced teachers' beliefs about statistical self-efficacy. Leaving aside the political conditions that the country is living in, and concentrating on the educational concerns, it is possible to say that there seems to be important problems to deal with.

According to Koparan and Güven's (2013) study results, students at secondary school level; do not have enough knowledge in statistical subjects, especially in organizing and reducing the data, data analysis and data interpretation. One of the facts supporting the concept of self-efficacy is the content knowledge, and for improving teachers' self-efficacy beliefs it is suggested that statistical contents should be included in the program from the previous levels of education. Besides, Teacher attitudes and beliefs are shown as one of the sources that cause the inadequacies and difficulties of the students in the related literature (GAISE, 2016; Pajares & Miller, 1994). From this point of view, it is thought that the arrangements to be made in teacher education programs can be effected achievements of students in the statistics course, indirectly. Teachers plays a critical role in directing and motivating students to use their skills in solving mathematical problems and in offering them the educational environment that they need to achieve the supposed educational goals from the educational process. Palestinian teachers in general do not have the persistent attitude to direct and motivate their students to achieve the required goals in their mathematics teaching. Those factors could be determining factors of students' levels of education in the mathematics classroom. While the study considers the statistical self-efficacy beliefs of the teachers, they did not provide any comparisons in terms of student and program content.

Investigating the role of these factors on the education system we need further studies. In some studies, it is stated that there may be differences between self-efficacy beliefs and academic achievements related to subjects in the statistical course as it does not require performance within the self-efficacy concept (Sevimli, 2010). Therefore, to give meaning to the findings regarding statistical self-efficacy, it is necessary to link them to the studies concerning performance in this area.

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## Appendix A

<i>Current Statistics Self-Efficacy Scale</i>						
	NC <sup>1</sup>					CC <sup>2</sup>
I-1: Identify the scale of measurement for a variable	1	2	3	4	5	6
I-2: Interpret the probability value (p-value) from a statistical procedure.	1	2	3	4	5	6
I-3: Identify if a distribution is skewed when given the values of three measures of central tendency	1	2	3	4	5	6
I-4: Select the correct statistical procedure to be used to answer a research question.	1	2	3	4	5	6
I-5: Interpret the results of a statistical procedure in terms of the research question.	1	2	3	4	5	6
I-6: Identify the factors that influence power.	1	2	3	4	5	6
I-7: Explain what the value of the standard deviation means in terms of the variable being measured.	1	2	3	4	5	6
I-8: Distinguish between a Type I error and a Type II error in hypothesis testing.	1	2	3	4	5	6
I-9: Explain what the numeric value of the standard error is measuring	1	2	3	4	5	6
I-10: Distinguish between the objectives of descriptive versus inferential statistical procedures.	1	2	3	4	5	6
I-11: Distinguish between the information given by the three measures of central tendency.	1	2	3	4	5	6
I-12: Distinguish between a population parameter and a sample statistic	1	2	3	4	5	6
I-13: Identify when the mean, median and mode should be used as a measure of central tendency.	1	2	3	4	5	6
I-14: Explain the difference between a sampling distribution and a population distribution.	1	2	3	4	5	6

<sup>1</sup>Noconfidence

<sup>2</sup>Complete confidence

## Appendix B

Descriptive Analysis of the CSSE										
Item Number	Min	Max	Mean	SD	Item Number	Min	Max	Mean	SD	
1	1	6	2.58	1.13	8	1	6	2.86	1.17	
2	1	5	2.41	1.16	9	1	6	2.83	1.23	
3	1	5	2.61	.87	10	1	6	2.87	1.36	
4	1	5	2.35	1.18	11	1	4	2.81	.84	
5	1	5	2.57	1.08	12	1	5	2.74	.93	
6	1	6	4.27	1.13	13	1	6	3.00	.31	
7	1	5	2.60	1.12	14	1	5	2.54	.99	
								<i>Total</i>	2.78	1.03



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