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Sami Mahajna  
*Beit Berl Academic college Israel*

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## **“On the Way to School” : Structural Analysis of the Relational Path between Social Context Variables and Teachers’ Self-Efficacy among Pre-service Palestinian Teachers in Israel**

Sami Mahajna  
Beit Berl Academic College  
Israel

*Abstract: While many researches have focused on the self-efficacy's effects, few researches studied antecedents' variables of self-efficacy. The present study purpose was to examine how social context, motivational and teacher training variables related to teachers' self-efficacy. The study examined a theoretical model that links between Social Context variables and self efficacy through motivational and teacher training variables. 218 Arab teacher students' citizens of Israel participated in the study. Structural equation modeling showed direct correlations between self efficacy and Teacher training variables but not with Social Context variables. These results showed specifically, the importance of expressive skills in promoting teaching self efficacy.*

### **Introduction**

The importance of teachers’ self-efficacy has been investigated in detail in relation to both teachers and students. With respect to teachers, for over three decades researchers have reported that teachers’ self-efficacy is related to the desire to teach (Allinder, 1994; Siwatu, 2011), burnout level (Brouwers & Tomic, 2000; Skaalvik, & Skaalvik, 2010), teaching quality (Raudenbush, Bhumerat, & Kamali, 1992), teaching commitment (Skaalvik, & Skaalvik, 2010), satisfaction (Caprara, Barbaranelli, Borgoni, & Steca, 2003; Klassen & Chiu, 2010; Skaalvik, & Skaalvik, 2010), and school climate (Chong, Klassen, Huan, Wong, & Kates, 2010). With respect to students, researchers have reported that teachers’ self-efficacy is related to students’ academic achievement, motivation, learning persistence, and relations with other teachers (Guo, Piasta, Justice, & Kaderavek, 2010, O’Neill & Stephenson, 2011a; Ross, 1998; Schunk, 1989a; Smylie, 1988b). However, beyond a theoretical analysis (Bandura, 1986, 1997), little empirical research has focused on antecedents of teachers’ self-efficacy (Anderson & Betz, 2001; Tschannen-Moran & Woolfolk Hoy, 2007).

A few studies examined the antecedents of self-efficacy in socio-cultural contexts: Poulou (2007) in Greece, Kennedy and Smith (2013) and Oh (2011) in the United States, O’Neill and Stephenson (2012) in Australia, and Wah (2007) in Malaysia. However, either these examinations were done only at the level of the statistical relationships between teaching self-efficacy and other variables, or specific variables were examined as predictors of self-efficacy in teaching (Kennedy & Smith, 2013). The author did not find a tested model describing the relationship-path variables between the examined variables and teaching self-efficacy.

The purpose of this study is therefore to examine the antecedent variables of teacher self-efficacy, focusing on the following groups: social context variables, motivational variables, and teacher training variables. The study empirically tests a theoretical model that links social context variables with teachers’ self-efficacy through motivational variables and

teacher training variables using data collected from student teachers in the Palestinian community in Israel.

The focus on the antecedents of teachers' self-efficacy among Palestinian teacher candidates in Israel is important for three reasons. First, this focus is relevant for all teacher education students. It derives from the importance of the training process to success and persistence in the teaching profession (Friedman, 2005; Kelchtermans & Ballet, 2002) and the relationship between a sense of readiness for teaching and the tendency to continue in the profession (Darling-Hammond, Chung & Frelow, 2002). Second, the percentage of Palestinian students at teacher training colleges is increasing steadily. The percentage of Palestinian students at Israeli teacher training colleges doubled from 15% during the 1999–2000 academic year to 31% during the 2007–2008 academic year. During the same period, the percentage of Palestinian students at universities in general rose from only 6% to just 11% of all students (Council of Higher Education, 2013). Third, the Palestinian society in Israel is culturally unique. Recent studies have examined the issues of equality, the educational policy of the Ministry of Education, the impact of the cultural affiliation of Palestinian students on their teacher training, and their relations with Jewish people, achievements, and higher education (Agbaria, 2010). However, the importance of teaching self-efficacy to the various aspects presented above and the findings on Palestinian teachers' coping strategies for classroom management and the adjustment of school culture (Toren & Ilian, 2008) point to the importance of research on the self-efficacy of Palestinian students in Israel during teacher training.

### **The Socio-cultural Context of the Study**

The Palestinian community makes up approximately 20% of the Israeli population. This community is considered an indigenous minority because it did not immigrate to Israel but has instead remained on its land since the establishment of the state of Israel following the war in 1948 (Ghanem & Rouhana, 2001). The conflicted situation of the Palestinian community members as citizens of Israel and as part of the Palestinian people outside of Israel affected the development of their society, which was considered a reaction to this situation rather than a natural development (Arar & Oplatka, 2011; Ghanem & Rouhana, 2001). One relevant example that demonstrates this development among the Palestinian community members in Israel is that they placed greater value on higher education after their land was expropriated (Al-Haj, 2003). This change was partially attributed to the steady rise in the number of Palestinian students in Israeli universities.

The most salient change was evident beginning in the 1990s. As part of this change, the number of Palestinian girls in Israeli universities and colleges exceeded the number of Palestinian boys. This change is attributed to two main factors (Arar & Oplatka, 2011). First, new academic colleges were opened near the girls' homes, which allowed girls to return home each evening in accordance with the expectations of a collectivistic and conservative society. Second, the education system is the main, governmental labor market that is open to Palestinian academic youth.

Despite the increasing number of Palestinian students in Israeli universities and colleges, the substantial achievement gap between Jewish and Palestinian students has not closed over time. For example, 65% of Jewish students earn matriculation certificates, whereas only approximately 35% of Palestinian students in Israel obtain this certificate, which is a university entrance requirement (Israeli Central Bureau of Statistics, 2010).

## **Beyond the Context of Palestinians in Israel**

Three considerations take this study beyond its local relevance. The first is theoretical and relates to vast knowledge accumulated over the years on the relevance of self-efficacy to the behavior of children, youths, and adults across different cultures and social settings. However, one of the basic premises of Bandura's theory (1997) about the situation-dependence of self-efficacy is that it is self-constructed.

Whereas there is consistent knowledge pertaining to how a specific content domain such as math, science, or language affects teacher self-efficacy (Haverback & Parault, 2011; Paneque & Barbeta, 2006; Tschannen-Moran & Woolfolk Hoy, 2001), little is known about how specific context variables relate to teacher self-efficacy. Thus, the present study aims to extend the knowledge about what factors in the specific context of teachers affect efficacy beliefs.

The two other considerations relate to two aspects of the socio-cultural settings in which teachers act. The first is specific to other Muslim societies: that the quest for higher education is a trend observed in other Muslim societies in the Middle East and North Africa (Gregg, 2005), and that for Muslim women living in Western countries religious identity and education and employment are not incompatible (Scott & Franzmann, 2007). The second is that for several decades now, most countries have consisted of a majority and at least one minority. Although the majority-minority dynamics differ from country to another, some aspects of majority-minority relations are shared by all countries (Seginer, 2009).

## **Self-efficacy: The Concept and Its Meaning**

Self-efficacy is one's belief in one's abilities that allows one to organize and execute behaviors that lead to the realization of desired goals. Self-efficacy is considered a motivational resource that causes the individual to only invest in specific behaviors that are designed to change specific conditions around him or her (Bandura, 1997; Schunk & Pajares, 2002). Despite the possibility of applying self-efficacy to a variety of domains, it is largely considered a context-specific domain that develops as a result of interaction between the individual and the social context in which he or she operates (Bandura, 1997; Tschannen-Moran & Woolfolk Hoy, 2001).

### **Teaching Self-efficacy**

In the teaching domain, self-efficacy refers to two dimensions. The first focuses on the distinction between a personal sense of self-efficacy and a general sense of self-efficacy. Personal self-efficacy includes personal belief in one's power to improve students' achievement by influencing their behavior (Gibson & Dembo, 1984) and by using one's personal skills (Soodak & Podell, 1996). The general sense of self-efficacy relates to a teacher's belief that in spite of external difficulties, he or she can promote student achievement through teaching (Gibson & Dembo, 1984). The second dimension focuses on the distinction between the three areas of a teacher's performance: the task domain, the interpersonal relations domain, and the organization domain (Friedman, 2001). The task domain refers to a teacher's ability to promote student achievement. The interpersonal relations domain refers to a teacher's ability to maintain a good relationship with his or her professional social context. Finally, the organization domain refers to a teacher's ability to influence decision making at his or her school.

### **Relevance of Self-efficacy to Teaching: Contribution to Teachers and Students**

Previous studies on the relevance of self-efficacy to teaching have focused on the main issues of classroom management, teaching methods and teacher instructional behavior, and student behavior and achievement.

#### ***Classroom Management***

Teaching self-efficacy is highly related to teachers' behavior in the classroom (Ghaith & Yaghi, 1997; Milner & Hoy, 2003), opinions about how to control students (Woolfolk & Hoy, 1990), and enthusiasm for teaching (Allinder, 1994; Siwatu, 2011). Teachers with high self-efficacy create an organized and planned learning social context (O'Neill & Stephenson, 2011). They are flexible in satisfying the specific needs of their students (Allinder, 1994), apply management methods that increase their students' autonomy (Guo, Piasta, Justice, & Kaderavek, 2010; Ross, 1998), and spend more time on teaching and less on discipline and maintaining order (Onafowora, 2004).

#### ***Teaching Methods and Teacher Instructional Behavior***

Teachers with high self-efficacy show a willingness to introduce new teaching methods and report low levels of teaching-related stress (Ross, 1998; Smylie, 1998), low levels of burnout (Brouwers & Tomic, 2000; Friedman & Wax, 2001; Skaalvik, & Skaalvik, 2010), high quality of teaching (Raudenbush, Bhumerat, & Kamali, 1992), and high teaching commitment (Skaalvik, & Skaalvik, 2010); in addition, they show an ability to create a positive classroom climate (Chong, Klassen, Huan, Wong, & Kates 2010). They also express high job satisfaction (Caprara, Barbaranelli, Borgoni, & Steca, 2003; Klassen & Chiu, 2010) and encourage parental involvement in school (Garcia, 2004).

#### ***Student Behavior and Achievement***

Teachers with high self-efficacy are less critical of their students (Chong, Klassen, Huan, Wong, & Kates 2010); feel less threatened by the integration of special needs students in their classrooms (Hutzler, Gafni, & Zach, 2005); are more likely to help students who have behavioral difficulties (Poulou & Norwich, 2002); are less likely to refer students to special education (Soodak & Podell 1996); maintain a high level of involvement in their students' learning (Good & Brophy, 2003); believe in teaching all students, including those labeled "difficult" (Allinder, 1994; Ghaith & Yaghi, 1997); and spend a relatively long time on teaching, monitoring activities, relief, and instruction for all students (Gibson & Dembo, 1984).

Moreover, for over three decades many studies (Gibson & Dempo, 1984; Lumpe & Chambers, 2001; Ross, 1994; Tucker et al., 2005) have consistently associated teachers who have high self-efficacy with students' high academic achievement, persistence, and motivation to learn (O'Neill & Stephenson, 2011; Ross, 1995; Schunk, 1989a; Smylie, 1988b). Furthermore, teachers with high self-efficacy work toward strengthening students' relationships with other teachers and changing students' perceptions of their own academic

abilities (Guo, Piasta, Justice, & Kaderavek, 2010). Although, Guo's study was conducted on preschool teachers, it's safe to claim that findings are somehow valid for all stages' teachers.

### **Antecedents of Self-efficacy**

According to Bandura (1986, 1997), behavioral, cognitive, personal, and social context factors influence one another, and these reciprocal influences affect the development of self-efficacy. This indicates that the development of self-efficacy depends on many variables that precede and exist in the specific social context surrounding the teacher's workplace. Compared to research that has focused on the impact and implications of self-efficacy on teachers' and students' behavior, relatively little has focused on factors that predict teacher self-efficacy. For the most part, this issue remains addressed only at the theoretical level (Anderson & Betz, 2001; O'Neill & Stephenson, 2012).

### **Bandura's Conceptualization**

Bandura (1986, 1997) identified four antecedents of self-efficacy. The first is personal experience (enactive attainment). Through personal experiences of success and failure, individuals learn about and develop a subjective perception of their abilities. Related to this concept are factors such as task difficulty, effort, the existence of external assistance, and the specific contextual circumstances in which the individual operates. The second antecedent is modeling (vicarious experiences). Individuals learn about their abilities by observing the performance of others and comparing it to their own. The third antecedent is verbal persuasion, that is, the quality of feedback individuals receive from their social context. Teachers obtain feedback from students' reactions and from an encouraging, rewarding, and supportive social context. The fourth antecedent is physiological state, especially during tasks that require physical effort and endurance. Based on the context in which behavior occurs, individuals learn about their abilities and the possibility of performing a specific behavior again.

### **Empirical Findings**

Although the empirical studies concerning the correlation between self-efficacy and other variables have not been specifically conducted according to the four categories proposed by Bandura, their findings can be categorized accordingly. Feelings of success in the past, a good sense of readiness to teach, and students' engagement have been found to be correlated with positive self-efficacy (Guo, Piasta, Justice, & Kaderavek, 2010; O'Neill & Stephenson, 2011; Ross, Cousins & Gadallas, 1996). Furthermore, studies on the correlations between personal motivation (Poulou, 2007), commitment to the teaching profession (Skaalvik, & Skaalvik, 2010; Yeung & Watkins, 2000), and self-efficacy all include antecedents of **personal experience (enactive attainment)**.

Regarding **verbal persuasion**, improved levels of self-efficacy in new teachers are related to the degree of support they receive from their social context, their colleagues, and their school administration (Huang & Weng, 2005; Hung, Weng & Shiomi, 2007; Hoy & Spero, 2005; Schunk & Pajares, 2002) and to the respect awarded to them by students and their parents, especially in times of distress (Milner & Hoy, 2003). A positive correlation has also been reported between self-efficacy and the amount of resources in and quality of the

teacher's educational climate (Schunk & Pajares, 2002; Martin, Sass & Schmitt, 2012). Other studies have found a positive correlation between job satisfaction and autonomy at work and perceived self-efficacy (Skaalvik, & Skaalvik, 2010; Somech & Drach-Zahavy, 2000).

Additional variables have been related to teaching self-efficacy, but they cannot be ascribed to the two remaining categories in Bandura's theory, modeling and physiological arousal. These variables refer to instructional skills (Poulou, 2007), pedagogical skills, communication with students, students' participation in the learning process, and teaching commitment (Yeung & Watkins, 2000; Chong, Klassen, Huan, Wong, & Kates 2010). Positive attitudes toward the teaching profession were also positively related to self-efficacy, even when teaching is carried out in a class where there are discipline problems (Linnen-Brink & Pintrich, 2003).

### **Reorganization of Empirical Findings Regarding Factors Related to Self-efficacy**

According to the above findings that describe variables related to a sense of self-efficacy, we can distinguish three main groups of variables: **social context variables**, **motivational variables**, and **teacher training variables**. Social context variables include variables related to teachers' relationships with members of their social context (students, colleagues, management, and parents) and to the latter's attitudes toward the teaching profession. Motivational variables include variables that are related to teachers' perceptions of themselves as teachers and their relationship with the teaching profession (affective and cognitive aspects). Teacher training variables pertain to the teaching skills that students begin to acquire during their study at a teacher training college. Using these skills, students learn how to manage a classroom and communicate with pupils. In other words, this variable pertains to the practical aspect of the training process at the college. During this process, students learn how to prepare lessons, tests, homework assignments, and other items (pedagogical skills). In addition, teaching students learn how to interact with their students, encourage them, and address differences between them (expressive skills).

### **Correlations between Social Context Variables, Motivational Variables, Teacher Training Variables, and Self-efficacy**

A relational sequence among social context variables, motivational variables, and teacher training variables has been suggested by studies based mainly on the self-determination theory. According to these studies, social context factors affect motivation variables, which in turn have behavioral consequences, particularly in the contexts of health, education, and work (e.g., see a detailed review by Deci & Ryan, 1985, 2012; Vallerand, 1997). For example, laboratory studies have found that social context variables such as feedback and choice opportunities influence level of motivation (Deci, Koesther & Ryan, 1999; Zukerman, Paroc, Lathin, Smith & Deci, 1978). Additional laboratory studies have shown a causal relationship between motivation and behavioral outcomes such as school performance and dropping out (Cury, Wagner & Grothaus, 1990; Guay & Vallerand, 1997; Sarrazin, Vallerand, Guillit, Pelletier & Cury, 2002).

Based on these findings, the present study examines the correlation between teaching self-efficacy and social context variables, motivational variables, and teacher training variables in a multi-variable model. In this model, the correlation between social context variables and self-efficacy is linked by the motivational and teacher training variables. The model is based on Bandura's (1997) basic assumption that self-efficacy is domain-specific and that it develops as a result of interactions between individuals and their social context

through the three antecedents mentioned above. In other words, teachers evaluate their performance reflectively and formulate decisions based on their experiences and other responses with respect to their behavior. This process can affect, either positively or negatively, their perceptions of their abilities to perform specific tasks (Bandura, 2001).

## Research Goals and Hypotheses

The main hypothesis of the present study is a four-step model (Figure 1) in which Step 1 consists of theoretical social context variables. Teachers' work social context includes their perception of society's attitudes toward the teaching profession, and their school climate reflected in relations with colleagues and with management (Agbaria, 2010; Ertmer, 2005; Lumsden, 1998). Step 1 variables affect Step 2 variables: motivational and cognitive variables, including reflective thinking, emotional reference to the teaching profession, and emotional reference as a pupil in the past. At this level, teachers' work social context variables appear to affect the teachers' motivation to be a teacher (Peterson & Arnn, 2005), shape their feelings about themselves and about their profession (Martin & Kulinna, 2004; Tillema, 2000; Techanan-Moran, Hoy & Hoy, 1998), and, finally, reinforce their thoughts about and attitudes toward the teaching profession through reflective assessment of their performance (Bandura, 2002; Peterson & Arnn, 2005). In this process teachers assesses their surroundings and abilities just as people generally do when assessing themselves (Harter, 1990). As a result, teachers shape their personal attitudes such as feelings about the teaching profession, perceptions of future success, and job satisfaction (Patric, Ryan, & Kaplan, 2007; Poulou, 2007).

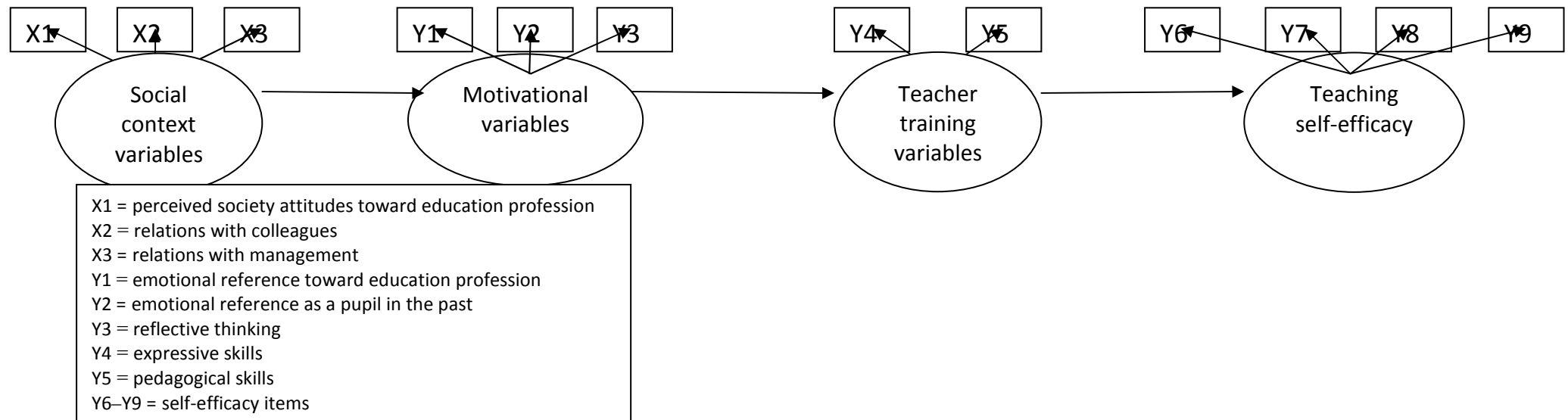
Each of the previous two steps affects Step 3, teachers' training variables pertaining to pedagogical and expressive skills. At this level, teachers learn to criticize their thoughts, feelings, and behaviors (Bandura, 2001; Peterson & Arnn, 2005; Zundans-Fraser & Lancaster, 2011) so that they can choose strategies that best help them achieve their goals; evaluate the effort required and the desired target; and, finally, select the best behavior and even change unsuccessful behaviors (Bandura, 2001). Step 3 variables affect the Step 4 theoretical variable, teachers' self-efficacy.

The individuals' perceptions of their behavioral skills in teaching are what ultimately shapes their self-efficacy. For example, it was found that self-efficacy can be promoted by strengthening teaching skills such as the abilities to identify students' needs, to manage a classroom, to organize teaching activities, and to communicate with students (Poulou, 2007; Tucker et al., 2005).

In summary, studies conducted so far indicated the correlations between social-context, motivational, and teacher's training variables and perceived teaching self-efficacy. However, although these studies examined the correlation between each variable and self-efficacy separately, the starting point of the present study is that these factors are interconnected and that a multi-dimensional model is therefore needed.

Figure 1: The research structural model: Relations between social context variables and self-efficacy through motivational and training teacher's variables among teachers





## Method

The present study was designed to test a theoretical model that links social context variables with teachers' self-efficacy through motivational and teacher training variables. Questionnaires were used to collect data from Palestinian students in Israel who study at a teacher training college. The main statistical analysis was conducted with structural equation modeling (SEM).

## Participants

The study participants were 218 young Palestinian female students who were citizens of Israel (97% age 25 or younger and 3% over age 25). All were students in the primary and secondary tracks at a teacher training college in central Israel. The participation rate was 96% of all female Palestinian students at the college. Approximately 18% were students in the Arabic and Hebrew languages teaching program, 25% were in the sciences teaching program, 25% were in the mathematics teaching program, and 32% were in the English teaching program. Twenty-eight percent (61 students) of the participants were in their first year, 30% were in their second year (65 students), and 42% were in their third year of studies (92 students). The fourth year student who are heavily engaged in internship were not included in the research due to their partial attendance in campus.

The goal of the program at the teacher training college is help future teachers develop the professional knowledge and skills required to teach various subjects. The curriculum is composed of subject matter studies, education and pedagogy courses, and field experience.

The duration of the program is 4 years. In the first year, students mainly study education theory and topics in their area of specialization (languages, mathematics, etc.). In the second and third years, students begin practical training in the field (schools) and continue to study education theory and their subject of specialization. In the fourth year, they again study primarily education theory and start their internship in schools spending just little time in campus. The program, which was built in accordance with the instructions of the Ministry of Education and the Higher Education Council, does not take into account the cultural features of the Palestinian minority in Israel.

## Research Instruments

The research instruments included the following sets of questionnaires: (1) two questionnaires gathering information about social context variables; (2) three questionnaires gathering information about motivational aspects; (3) one questionnaire gathering information about two teacher training variables of teaching skills: pedagogical and expressive skills; and (4) one questionnaire gathering information about teaching self-efficacy. The samples of items, number of items, and reliability coefficient for each variable appear in Appendix 1.

## *Social Context Variables*

**Perception of society's attitudes toward the teaching profession** (Altaher, 1991). This questionnaire examines the participant's (student's) perception of society's attitudes toward the teaching profession. The questionnaire measures the following dimensions: the student's perception of teaching as a profession, the student's perception of society's attitudes

toward the teaching profession, the student's evaluations of his or her professional skills, and the student's feeling of belonging to the profession. For the purposes of the present study, only the student's perception of teaching as a profession and the student's perception of society's attitudes toward the teaching profession were used. Written in Arabic, The questionnaire was validated by the questionnaire author and showed very good statistical properties (Altaher, 1991).

**School climate** (Fountain, Drammond & Senterfitt, 2000). This questionnaire addresses three dimensions of school climate: attitudes and relationships with colleagues (6 items), school management (7 items), and pupils (3 items). For the purposes of the present study, only the first two dimensions were used.

### *Motivational Variables*

**Reflective thinking** (Morris & Nunnery, 1993). This questionnaire addresses two aspects of reflective thinking: monitoring reflective thinking (5 items) and teaching reflective thinking (6 items). The present study refers only to the general component of reflective thinking.

**Emotional reference to the teaching profession** (Seginer, 2009). This questionnaire addresses how one feels about oneself as a future teacher. The questionnaire was originally created to measure how adolescents feel about themselves in the future and was adapted for use with novice teachers in the present study. When I think that I will be teacher in the future, I feel hope vs despair" whereas in Seginer it appeared " When I think about the future I feel hope vs despair "

**Students' emotional reference to themselves as pupils in the past** (Seginer, 2001). This questionnaire examines students' emotional attitude toward themselves as students in the past. Originally, the questionnaire was created to examine how adolescents feel about themselves in the future and was adapted for use with novice teachers in this study. The questionnaire was adapted in a way to suit our research purposes " When I remember when I was a student I feel hope vs despair " whereas in Seginer it appeared "When I think about the future I feel hope vs despair"

### *Teacher Training Variables*

This questionnaire was created by the author and addresses students' perceptions of their mastery of two teaching skills: pedagogical teaching skills refers to activities that aims especially to ptomote and evaluate the pupils' content understanding, such as test preparation, preparation of worksheets, and material and curriculum proficiency; and expressive teaching skills, which refers to especially to the quality of the relationships between teachers and students such as managing a classroom and providing students with emotional support.

### *General Teaching Self-efficacy (Luszczynska, Gtierrez-Dona, & Schwarzer, 2005)*

This questionnaire examines participants' perceptions of their own ability to affect change in students and their general belief about the ability of teaching to affect change in students despite other factors. The questionnaire addresses the general feeling of self-efficacy but not the subcomponents of the concept.

The original questionnaire included 10 items. However, after consulting with colleagues, the author omitted three items. In addition, following confirmatory analysis by SEM, three items that loaded below .40 were omitted (Appendix 1).

### **Data Collection**

The data were collected at the end of the school year to allow respondents a sufficiently long training process. The questionnaires were administered by the author and completed by the students in their classrooms. Before completing the questionnaire, Students were required not to register their names or any identifying item in order to guarantee complete anonymity. The author also informed them that the data would only be used for research purposes.

### **Data Analysis**

The data analysis has two parts. The first part is a preliminary analysis that consists of examining correlations among the study variables and differences between student groups according to year of study. The second part consists of examining the study instruments by means of confirmatory factor analysis (CFA) and then performing SEM to examine the fit of the empirical data to the theoretical model.

### **Results**

Use of SEM allows researchers to simultaneously examine a set of regression equations while taking into account the measurement error of the theoretical constructs and to draw a causal relation, as represented by the model paths (Byran, 2001). The goal of the first phase of analysis was to confirm the index properties, and the goal of the second phase was to examine the model.

All of the analyses were performed using AMOS 16 (Arbuckle, 2003). Five common indicators were reported, in order to evaluate the goodness of fit between the theoretical model and the empirical model. In addition to the chi-square value relative to the degrees of freedom, the following indicators were reported: (a) normed fit index (NFI), (b) comparative fit index (CFI), (c) goodness of fit index (GFI), and (d) root-mean square error of approximation (RMSEA). For the chi-square value relative to the degrees of freedom, a value less than 2 indicated a good fit between the theoretical model and the empirical model. For the NFI, CFI, and GFI indicators, a level of significance above .90 was considered to indicate very good goodness of fit between the two models. Finally, for the RMSEA, a significance level below .05 indicated excellent goodness of fit (Hu & Bentler, 1995).

### **Preliminary Analysis**

Three preliminary analyses were performed: examination of the correlation between year of study and the various research variables, examination of differences in the research variables according to students' year of study, and examination of the correlations between the study variables. The findings showed that only the teacher training variable of expressive skills significantly correlated with year of study (Table 1). With regard to the differences

between students in different years of study, the only difference was found in reflective thinking (Table 2): second-year students showed higher reflective thinking than first-year students. Thus, only small differences were found between students from years 1, 2, and 3.

	Self efficacy	Perceived society attitudes toward education	Perceived relations with colleagues	Perceived relations with management	Reflective thinking	Emotional reference toward educational profession	Pedagogical skills	Expressive skills	Year of study
Self efficacy		.27***	.29***	.11	.33***	.37***	.45***	.60***	.02
Perceived society attitudes toward education			.25***	.19*	.20**	.27***	.39***	.37***	.02
Perceived relations with colleagues				.41***	.46***	.23***	.38***	.38***	.01
Perceived relations with management					.18**	.10	.16*	.12	-.06
Reflective thinking						.28***	.35***	.43***	-.04
Emotional reference toward educational profession							.31***	.36***	-.02
Pedagogical skills								.45***	-.05
Expressive skills									-.20**
Means	4.39	3.45	3.88	3.43	4.08	3.97	4.00	3.91	
Standard deviations	.63	.81	.61	.73	.68	1.03	.73	.50	

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

**Table 1: Correlations, means and standard deviations of self-efficacy social context, motivational, and teacher's training variables**

For the correlations between the study variables, in addition to the correlation between self-efficacy and the teacher training variable of expressive skills ( $r = .60$ ), the statistical correlations between variables were low or medium, ranging from .11 to .50 (Table 1). In other words, the possibility of multicollinearity is low (Cohen, 1988).

	First year	Second year	Third year	F values
Self efficacy	3.47 (.72)	3.28 (.61)	3.47 (.69)	Df (2,209) = .71
Perceived society attitudes toward education	3.45 (.99)	3.51 (.65)	3.40 (.80)	Df (2,200) = .28
Perceived relations with colleagues	3.90 (.65)	3.90 (.51)	3.86 (.65)	Df (2,199) = .13
Perceived relations with management	3.47 (.91)	3.27 (.67)	3.52 (.65)	Df (2,200) = 2.19
Reflective thinking	3.80b (.78)	4.28a (.54)	4.08 (.66)	Df (2,201) = 7.41***
Emotional reference toward educational profession	3.92 (.71)	3.92 (.54)	3.94 (.53)	Df (2,208) = .01
Pedagogical skills	4.04 (.76)	4.02 (.61)	3.95 (.81)	Df (2,208) = .29
Expressive skills	3.95 (.55)	3.93 (.48)	3.86 (.47)	Df (2,208) = .66

\*\*\* $p < .001$

**Table 2: Means, standard deviations and F values of first-, second- and third-year students in the study variables**

Note: means with different letters differ significantly

### Confirmatory Factor Analysis

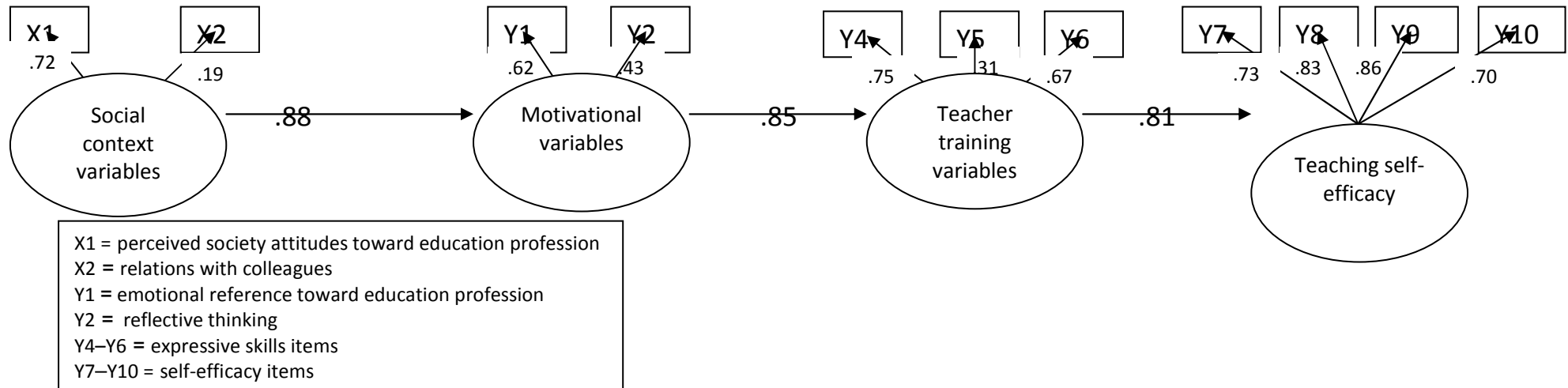
The purpose of CFA is to test whether the data fit a hypothesized measurement model. By this analysis one can minimize the difference between the estimated and observed variables. CFA was performed for each of the variables and for the relationships between them. Items that did not load above .40 or that loaded similarly on two variables were removed from the final index. Table 3 summarizes the CFA analysis. As shown in Table 3,

the latent variables are written in the first column. For each latent variable, the number of variables that entered the equation are registered in column 2, and the number of variables that had to be removed because they did not contribute to the equation are registered in column 3. In the next columns are registered the statistical properties for each of the remaining latent variable after CFA removal.

Variable	No. of items loaded	No. of items removed	$\chi^2$	df	p	CFI	GFI	NFI	RMSE A
Self efficacy	4	3	2.97	2	.86	.001	.99	.99	.00
Perceived society attitudes toward education	3	1	.02	1	.96	.001	1.00	.99	.00
Perceived relations with colleagues	3	1	.52	1	.47	.001	.97	.99	.00
Perceived relations with principal	4	2	.41	2	.81	.001	.99	.99	.00
Reflective thinking	4	1	3.44	1	.56	.001	1.00	.99	.00
Emotional reference toward educational profession	4	0	2.34	2	.31	.99	.97	.99	.03
Pedagogical skills	6	0	4.59	6	.59	.001	.97	.99	.00
Expressive skills	4	2	1.33	1	.29	.99	.96	.99	.04

**Table 3: Goodness of fit measurements of the research variables Empirical Evaluation of the Model**  
(N=218,  $\chi^2(42)=50.19$ ,  $p=.180$ , RMSEA=.03, CFI=.99, NFI=.94, GFI=.96)

To test the structural relationships between the variables, the author performed SEM. The analysis applied the maximum likelihood estimation method, considered the best method for handling missing data (Allison, 2003). At first, the analysis was performed on all of the variables estimated. Variables with no significant paths were removed from the structural equation. At this stage, the following variables were removed: participants' perceptions of their relationship with school management, participants' emotional reference to themselves as a student in the past, and participants' pedagogical skills. It should be noted here, that since the latent variable "teacher training variables" remained only with one indicator "expressive skills", we used its items as an indicators for the "teacher training variables". Next, SEM was performed on the remaining paths. The various goodness of fit indicators showed a very good level (see Figure 2), as the chi square was not significant; the NFI, CFI, and GFI indices were over .95; and the RMSEA was below .05. The percentage of variance explained by the model was also high (.65).



**Figure 2: The relational path between social context variables, motivational variables, behavioral variables, and self-efficacy among pre-service teachers**

The path analysis showed that the influence of the social context variables on self-efficacy occurred through the motivational variables and teacher training variables. As shown in Figure 2, the link between the social context variables and teaching self-efficacy was through the variables of perception of society's attitudes toward the teaching profession and perception of the relationship with colleagues and was mediated by the motivational variables of reflective thinking and emotional reference to the teaching profession and the teacher training variable of expressive skills. Importantly, the teacher training variable of pedagogical skills was removed from the equation because it did not influence teaching self-efficacy.

In summary, the relationship between the social context variables and teaching self-efficacy is mediated by the motivational variables of emotional reference to the teaching profession and reflective thinking ability and the teacher training variable of expressive skills. Of note, pedagogical skills did not predict teaching self-efficacy. This result shows that increased feelings of teaching self-efficacy are influenced by teachers' personal social context, as represented by their perceptions of the value of the teaching profession and their relationships with their colleagues. These variables have an impact on their feelings about teaching as an important profession and their reflective thinking, and these, in turn, affect their emotional skills related to managing a classroom.

## Discussion

The purpose of the present study was to examine the relational path between students' social context variables and teaching self-efficacy through motivational variables and teacher training variables. To achieve this goal, a structural model that linked social context variables, motivational variables, and teacher training variables was proposed.

Previous studies have also reported results similar to the present results. O'Neill and Stephenson (2012) found that past performance and the assessments of others are key factors predicting teaching self-efficacy. Poulou (2007) and Oh (2011) reported that the main predictors of teaching self-efficacy are individual attitudes, motivation, and personal abilities. Wah (2007), who examined the issue according to Bandura's conceptualization, noted specifically that expressive teaching skills are a predictor of teaching self-efficacy. However, the importance of the present results are due to examining the structural path of the variables, since it was not sufficient to merely examine the statistical relationships between two isolated variables.

The results of the SEM showed that social context variables (perception of society's attitudes toward the teaching profession and quality of relations with colleagues), motivational variables (personal feelings about the profession of teaching and reflective thinking), and a teacher training variable (expressive skills) contributed to the prediction of teaching self-efficacy. In other words, the motivational variables of emotional reference to the teaching profession and reflective thinking and the teacher training variable of expressive skills mediated the relationship between social context variables and teaching self-efficacy.

The current results have immediate relevance to Palestinian teacher training in Israel. To date, few Palestinian academic figures have been involved in the committees that were convened in Israel to examine the situation of the teacher training colleges. The work of these committees was characterized by a universal approach to teacher training and thus overlooked the uniqueness of the Palestinian cultural context (Agbaria, 2010). Moreover, studies conducted on Palestinian teacher training in Israel primarily focused on cultural and political issues rather than on the pedagogical and educational context of Palestinian teacher training.



The present results shed light on the importance of designing a Palestinian teacher training program that considers accumulated research-based knowledge about teacher training adapted to the unique situation of education for Palestinian children and adolescents in Israel and the training of their teachers. In more general terms, results of this study highlight the importance of a social context that nurtures the self-efficacy of Palestinian students in these colleges. The results indicate three main directions for the advancement of teaching self-efficacy among Palestinian pre-service teaching students. The first direction refers to the primary sources of teaching self-efficacy: social support, positive attitudes toward the teaching profession, and positive relationships with colleagues. This result supports previous findings (Hoy & Spero, 2005; Hung & Weng, 2005; Milner & Hoy, 2003) that strengthening the professional status of teachers and improving the social climate among colleagues fosters teaching self-efficacy. This contribution is indirect and mediated by motivational variables and expressive teaching skills.

Second, students' reflective thinking about and feelings toward the teaching profession play a motivational role in promoting feelings of self-efficacy. For reflective thinking, teachers who evaluate their teaching behavior daily and identify and modify their mistakes are likely to improve their teaching self-efficacy. The current study shows that the same is true for pre-service students. Similar results have shown that teachers who personally assess their teaching behavior report higher self-efficacy than those who do not (Orhan, 2008). Bandura (1997) emphasized that reflective thinking promotes self-efficacy. According to him, the cognitive processing that follows behavior execution enables individuals to learn about their abilities. Therefore, this cognitive processing is even more important than the behavior itself.

This process strengthens new teachers' awareness of their teaching methods and problem-solving skills and promotes the implementation of new methods and skills as teachers cope with the challenges of work. The new teachers' feelings about the teaching profession, such as hope and a readiness to invest in the profession, exert an influence on teaching self-efficacy that is mediated by the teacher training variable of expressive skills. Such feelings about the teaching profession encourage teachers to persevere in the profession and strengthen their professional commitment (Poulou, 2007). In the same vein, Van der Berg (2002) emphasized that positive feelings about the teaching profession contribute to the development of teachers' professional identity, which in turn promotes teaching self-efficacy.

Third, SEM showed that the teacher training variable of expressive skills plays an essential and unique role in predicting teaching self-efficacy. Expressive skills, such as the ability to see students' point of view, understand and respect their needs, understand individual differences among students and act accordingly, and initiate bilateral communication, were the only direct predictors of self-efficacy. Similar findings have been reported in previous studies (Charalambos, Philipou & Kyrikides, 2007; Poulou, 2007; Yeung & Watkins, 2000).

Along with these results, there are two major limitations to the present study. First, it was not possible to control for the initial level of students' self-efficacy in the SEM. In other words, it is possible that the relationship between students' social context and teaching self-efficacy can occur in other ways with other variables. Second, the present study involved only Palestinian students. Therefore, these findings are applicable only to this population and cannot be generalized to other populations. Longitudinal studies that control for the level of students' teaching self-efficacy should be conducted in the future. Future studies should also include additional variables that may affect the development of teaching self-efficacy and students from other cultural populations to expand the framework for the generalization of findings.

Moreover, in light of the universal importance of self-efficacy, results of this study are relevant for teacher students in other parts of the world, and especially for minority students. In other words, although the context may differ across societies and cultures, the implications for teacher education apply to all. In particular, the following two implications should be taken into consideration. First, the specific social-context, motivational, and teacher variables that may affect teacher self-efficacy should be identified. Second, teacher training programs should be designed to include subjects that directly promote self-efficacy. Moreover, teacher educators should design a social context that promotes teacher self-efficacy. In these two domains, teacher educators should provide a supportive social context that may boost students' beliefs about the importance of the education profession. Ultimately, this may strengthen teachers' self-efficacy.

## Conclusions

These findings have potential implications for the teacher training process. Since teaching self-efficacy is influenced by many factors and develops mainly during the training period (Henson, 2001), teacher training programs should provide opportunities and experiences that promote the development of teaching self-efficacy among pre-service students. Based on the present results, it is possible to point to three directions that can be focal points of teacher training programs with the aim of promoting self-efficacy.

The first direction refers to the main variable that predicts teaching self-efficacy: expressive skills rather than pedagogical skills as teacher's training variables. Teacher education programs should include explicit and intensive content whose goal is to nurture and promote teachers' expressive abilities and skills. Pianta and colleagues (Hamre, Pianta, Downer, & Mashburn, 2008) showed in a series of studies that positive personal relations and a positive classroom climate have positive effects on both students and teachers and are reflected in teachers' self-efficacy.

The second direction refers to providing social support by ensuring an appropriate learning social context. Such support can be achieved by promoting the status of the teacher and by fostering social relationships with peers, instructors, and pupils, who constitute an important source of information and affect in different ways the student's self-efficacy. Third, positive feelings about the teaching profession in those who choose the profession should be strengthened and promoted. Teacher education programs should emphasize content designed to foster emotional commitment to the profession and strengthen professional identity. In the same vein, teacher education programs should promote and foster students' reflective thinking ability. This ability, as we have seen, has a positive effect on self-efficacy.

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## Appendix 1

### Reliability coefficients and items examples of the study variables

Variable	No. of items	Example item	Reliability coefficient ( $\alpha$ )
<b>Social context variables</b>			
Personal attitudes toward education profession	5	If given the opportunity to leave the teaching profession, I would do it immediately	.86
Perceived society attitudes toward education profession	5	Teacher image in our society is very high and esteemed	.81
School climate			
a. Perceived relations with colleagues	6	I usually initiate a joint planning of work with colleagues	.81
b. Perceived relations with principal	7	School principal usually listens to opinions of teachers around school issues	.87
<b>Motivational variables</b>			
Reflective thinking	11	I have more awareness about my influence to improve teaching and student learning	.87
Emotional reference toward education	4	When I think that I will be teacher in the future, I feel Despair 1 2 3 4 5 Hope	.86
Emotional reference as pupil in the past	4	When I remember when I was a student I feel Despair 1 2 3 4 5 Hope	.82
<b>Teacher's training variables:</b> To what extent you control the following skills			
Pedagogical skills	6	Preparing worksheets	.88
Expressive skills	4	Increasing students' motivation for learning	.88
<b>Self-efficacy</b>			
Teaching self efficacy	4	I am convinced that I am able to successfully teach all relevant subject content to even the most difficult students When I try really hard, I am able to reach even the most difficult students. I am confident in my ability to be responsive to my students' needs even if I am having a bad day. If I try hard enough, I know that I can exert a positive influence on both the personal and academic development of my students.	.88