The Role of Teachers' Self- and Collective-Efficacy Beliefs on Their Job Satisfaction and Experienced Emotions in School

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This study aimed at investigating a) teachers' job satisfaction, experienced emotions at school, self-efficacy and school collective-efficacy beliefs; b) the influential role of self-efficacy in the school collective-efficacy beliefs, and in the impact of the school collective-efficacy beliefs on job satisfaction and emotions; and c) the effect of self- and collective-efficacy beliefs on the impact of job satisfaction on emotions. The sample comprised 268 elementary school teachers (113 male, 155 female), who completed the scales at the middle of a school year. The results showed that a) the teachers experienced form moderate negative emotions to moderate positive emotions at school, particularly in the context-task- and self-related emotions; b) teachers' self-efficacy had positive effect on school collective-efficacy beliefs and job satisfaction, and on the impact of collective efficacy on job satisfaction; c) self-efficacy, collective efficacy and job satisfaction, as a group, explained from a small to moderate amount of the variance of the emotions, while the impact of job satisfaction on the emotions was to a significant extent mediated by teachers' perceptions about their school collective efficacy; and d) self-efficacy had direct and indirect effect, through the interaction of collective efficacy and job satisfaction, on the emotions. The findings are discussed for their applications in educational practice and future research.

Keywords: Collective-Efficacy; Emotions; Job Satisfaction; Self-Efficacy

Introduction

A teacher has to regulate his/her cognitive, emotional and motivational processes in various situations that are related to his/her professional career (Boekaerts & Corno, 2005; Carson & Templin, 2007; Efklides & Volet, 2005; Hargreaves, 1998; Sutton, 2004; Sutton & Wheatley, 2003). However, although recent research on teachers' cognition, beliefs and conceptions about themselves has grown and expanded, the area remains unexplored (Hoy, Davis, & Pape, 2006). More precisely, there is little research in practicing teachers, particularly in elementary school, about how teaches' cognition, such as efficacy beliefs, relate to their emotional experiences at school, the relationship between teachers' emotions and motivation, and how integral the interactive effects of these three concepts are in teacher development (Hoy et al., 2006; Reyna & Weiner, 2001; Stephanou & Mastora, submitted; Stephanou & Sivropoulou, 2008; Stephanou & Tsapakidou, 2007a; Sutton & Mudrey-Camino, 2003). In addition, although the teachers' professsional role is context-related and socially-constructed, previous investigations have hardly examined the importance of teachers' beliefs about the conjoint capability of their school faculty, that is collective efficacy, for their well-being and achievement, and for students' academic development (Caprara, Barbaranelli, Borgogni, Petitta, & Rubinacci, 2003; Caprara, Barbaranelli, Borgogni, & Steca, 2003; Goddard, Hoy, & Woolfolk Hoy, 2004; Tschannen-Moran & Barr, 2004; Wheatley, 2005). Furthermore, while the role of both self-efficacy and collective-efficacy beliefs on organizational and group performance is

relatively well established, their covariation on teachers' well being, emotional experience and job satisfaction has much less examined (Capraca et al., 2003; Fernandez-Ballesteros, Diez-Nicolas, Capraca, Barbananelli, & Bandura, 2002; Labone, 2004; Ross, 1998; Stajkovic & Lee, 2002).

Accordingly, this study focused on the role of elementary school teachers' self-efficacy and collective efficacy beliefs on their job satisfaction and experienced emotions at school.

Efficacy Beliefs and Effects on Job Satisfaction

One important self-referenced belief for teaching is a sense of efficacy. The model of teacher efficacy by Tschannen-Moran, Woolfolk Hoy, & Hoy (1998), conceptualizing Bandura's (1997) theory of efficacy, defines "teacher efficacy is the teacher's belief in his or her capability to organize and execute the courses of action required to successfully accomplish a specific teaching task in a particular context" (p. 232).

A strong sense of self-efficacy supports a significant advantage in initial task engagement, motivation, effort, and resilience in front of the difficulties related to teaching career. Teachers' self-efficacy positively influences their own behavior and motivation, and student achievement (Coladarci, 1992; Goddard & Goddard, 2001; Pintrich & Schunk, 2002; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Johnson, 2011). For example, teachers with high self-efficacy evince greater control over the teaching/learning process (Caprara, Barbaranelli, Borgogni, Petitta et al., 2003; Jesus & Lens, 2005; Tschannen-Moran & Woolfolk Hoy, 2001). In turn, the synthesis of this

high control expectations over the teaching/learning process and high efficacy expectations contributes in their high success expectations, which is positively related to their own future success (Jesus & Lens, 2005). Teachers' self-efficacy is also affects teaching (Coladarci, 1992). For instance, high self-efficacious teachers, in comparison to low self-efficacious teachers, are more likely to use new curriculum materials, to change instructional strategies, and to use multiple and different teaching styles in their classes to better meet the needs of their students (Caprara, Barbaranelli, Steca, & Malone, 2006; Kulinna & Cothran, 2003; Stephanou & Tsapakidou, 2007b; Tschannen-Moran, Woolfolk Hoy & Hoy, 1998). Other studies have documented that teachers with high self-efficacy are more enthusiastic for teaching, are open to new ideas and are willing to test various teaching methods to satisfy their students' needs (Allinder, 1994; Ross & Gray, 2006). Yet, teachers' self-efficacy positively influences intrinsic interest, self-satisfaction and job satisfaction (Caprara et al., 2003; Caprara, et al., 2006; Klassen, Bong, Usher, Chong, Huan, Wong, & Georgiou, 2009; Zimmerman & Kitsantas, 1999).

However, as previous researches (e.g., Caprara et al., 2003; Hoy & Miskel, 2008), in consistency with Bandura's (1982, 1997, 2006) social cognitive theory, suggest, teachers' self-efficacy beliefs may not sufficient to ensure success and attain satisfaction. Rather, achievement is also influenced by the teachers' beliefs about the school, as a whole, capacity; that is the collective efficacy beliefs (Bandura, 1997; Goddard, Lo-Gerfo, & Hoy, 2004). Collective efficacy is "the perceptions of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students: (Hoy et al., 2006: p. 728).

Like self-efficacy, the findings from research in collective efficacy in various settings, including work, socio-police and school, show that the stronger the individuals' perceived collective efficacy, the stronger the persistency in the face of impediments and difficulties, the higher the outcome expectations and motivation in pursuing the goals, the higher the resilience to stressors, and the higher their performance accomplishments (see Bandura, 2000; Caprara et al., 2003; Klassen & Chiu, 2010; Klassen, Usher, & Bong, in press). Higher school collective efficacy also is related to higher rates of parental involvement and teacher innovation (Hoy & Miskel, 2008; Klassen et al., in press). Yet, a strong sense of school group capacity has positive effects on student achievement, particularly for children at risk (Goddard, Hoy, & Woolfolk Hoy, 2000; Goddard et al., 2004; Ross, 1995, 1998; Tschannen-Moran & Barr, 2004; Woolfolk Hoy & Davis, 2005).

Perceived group collective efficacy is influenced by its members' personal efficacy, while, in turn, the shared sense of collective efficacy may have effects on self-efficacy (Bandura, 1997; Caprara et al., 2003). As Bandura (1982) proposed 'Collective efficacy is rooted in self-efficacy. Inveterate self doubters are not easily forged into a collective efficacious force' (p. 143). Accordingly, this study, based on Bandura's theory of efficacy beliefs, and Caprara, Borgogni, Barbaranelli, & Rubinacci's (1999) model, considers the teachers' self-efficacy as an influential factor of collective efficacy and as the main significant determinant of job satisfaction, since self-efficacious teachers manage class discipline, promote learning and cooperate effectively with families and colleagues, and they are able to create and maintain situations from which they derive others'

recognition and intrinsic rewards (Schmitz & Schwarzer, 1999; Skaalvik & Bong, 2005). But, because the capacity of school to fulfill its mission contributes to teachers' satisfaction, which hat they derive from their own attainments, collective school efficacy has a positive effect on teachers' job satisfaction (Caprara, Barbarelli, Borgogni, & Pettita et al., 2003; Cockburn & Haydn, 2004; Judge, Thoresen, Bono, & Patton, 2001).

Emotions

Teachers may experience the whole spectrum of emotions across the various situations relevant to their professional role; therefore, emotions should be examined in any comprehensive discussion of teachers' motivation and behaviour (Astleitner, 2000; Frenzel, Goetz, Lüdtke, Pekrun, & Sutton, 2009; Hargreaves, 2000; Lambert, Mccarthy, O'Donnell, & Wang, 2009; Stephanou & Mastora, submitted; Sutton & Wheatley, 2003). Teachers may experience satisfaction, pride, enthusiasm, happiness and enjoyment for their good teaching, respectful relationships with their colleagues, warm school climate, and students' academic progress. In contrast, teachers may experience shame, hopelessness, anger, unhappiness and boredom for their unsuccessful teaching, negative relationships with their colleagues, undesirable school situations, and students' lack of academic progress.

Teachers' such emotional experience at school is considered precursor of their future behavior because it influences their self identity and motivation (Schutz & DeCuir, 2002; Somech & Drach-Zahavy, 2000). For example, teachers, who are constantly frustrated or sad by disruptive students or ineffective administration, are less intrinsically motivated, express a lack of enthusiasm for cultivating positive relationships with their students and report becoming tolerant, and less caring (Blase, 1986.). Teachers' emotions in classes also influence cognitive information processing, quality of thinking, categorizing, strategies in pursuing the goals and self-regulation (see Boakaerts, Pintrich, & Zeidner, 2000; Efklides & Volet, 2005; Isen, 1993; Parrot & Spackman, 2000). According to Sutton and Wheatley (2003), teachers who experience positive emotions might generate more teaching ideas and strategies that might contribute in developing 'broad minded coping' skills (Fredrickson, 2001: p. 223). These coping skills facilitate teachers to achieve their goals, such as teaching well and help students to learn. Yet, teachers' emotions have important consequences in judgments and behaviours (see Bless, 2003; Parrott, 2003; Weiner, 2005, 2006). For example, in experimental study contacted by Keltner, Ellsworth and Edwards (1993), angry and sad students attributed hypothetical misfortunes to the other and situational factors, respectively.

In addition, teachers' emotions in classes are a significant factor of students' motivation, behavior and well-being (Boekaerts, 2007; Davis, 2003; Furrer & Skinner, 2003; Taxer & Frenzel, 2012; Vauras, Salonen, Lehtinen, & Kinnunen, 2009). For example, teachers' positive emotions positively affected the students of various grade levels regarding motivation, achievement and social behavior in classes (Turner, Midgey, Meyer, Gheen, Anderman, & Kang, 2002; Turner, Meyer, Midgley, & Patrick, 2003; Wentzel, 1996; Wong & Dornbusch, 2000). In contrast, teachers' yelling made the children to feel small, ashamed, guilty, embarrassed and hurt (Thomas & Montomery, 1998), and their negative emotions are predictors of students' development (Hamre & Pianta, 2001).

Effects of Efficacy Beliefs on Job Satisfaction and Emotions

Bandura (1997) has suggested that efficacy cognitions not only influence how people behave but they also elicit thought patterns and affective reactions to tasks that challenge personal capabilities (see also Pajares & Schunk, 2005; Skaalvik & Bong, 2005). Teachers with high self-efficacy are able to attain personal accomplishments and well-being, reduce stress, and are less vulnerable to depression, experience less negative emotions in teaching, and are more effective in meeting the needs of culturally diverse student groups (Ashton, Olejnik, & Croker, 1982; Bandura, 1994; Greenwood, Olejnik, & Parkay, 1990; Tucker, Porter, Reinke, Herman, Ivery, Mack, & Jackson, 2005). Conversely, people with low self efficacy are face difficulties in commitments to the goals they choose to pursue, blame themselves for their failure, believe that things are tougher than they really are, a belief that fosters anxiety and stress as they engage in a task, are slow to recover after failures or setbacks, and easily fall victim to depression (Bandura, 1994; Fiori, Mcilvane, Brown, & Antonucci, 2006; Muris, 2001; Pajares & Schunk, 2005; Ross, 1998; Stephanou, 2004; Wheatley, 2005).

Also, despite the limited number of the researches on the association of collective efficacy with experienced emotions in school settings, there is evidence that, like self-efficacy, collective efficacy positively influences achievement-related emotions (see Charalabidou under Stephanou supervision; Klassen et al., in press). Furthermore, teachers' collective efficacy is expected to have indirect effects on their experienced emotions at school through self-efficacy because, as above discussed, it is influenced by self-efficacy.

Finally, the teachers, similarly with other professionals who are high satisfied with their job, are more likely to experience positive emotions (see Muthuvelayutham & Mohanasundaram, 2012; Sy, Tram, & O'Hara, 2006). Moreover, the impact of job satisfaction on emotions is expected to be affected by efficacy beliefs, mainly self-efficacy, since the higher, compared to less, efficacious individuals are more capable in to comprehend and to adapt their emotions, better understand the causes of the formulation of their negative emotions, such as stress, and they use effective strategies of holding the consequences of negative emotions (Bandura, 1994; Fiori et al., 2006; Muris, Schmidt, Lambrichs, & Meesters, 2001; Skaalvik & Bong, 2005).

Aim and Hypotheses of the Study

This study aimed at investigating a) teachers' job satisfaction, experienced emotions at school, self-efficacy and school collective-efficacy beliefs; b) the influential role of self-efficacy in collective-efficacy, and in the impact of collective-efficacy beliefs on job satisfaction and emotions; and c) the effect of self- and collective-efficacy beliefs on the impact of job satisfaction on the emotions.

The following hypotheses were examined.

The teachers will report a rate of job satisfaction, self-efficacy, and collective efficacy of the school, as a as whole. However, no specific hypothesis is tested about the specific rate of each of the three concepts (Hypothesis 1). The teachers will experience various emotions at school but no specific hypothesis is tested about the extent of the intensity of each of the emotions (Hypothesis 2a). The teachers will mainly experience

context- and task-related emotions (Hypothesis 2b). The teachers' self-efficacy will positively influence their beliefs about collective efficacy of their school (Hypothesis 3). Self-efficacy and perceived school collective efficacy will have positive effects on job satisfaction (Hypothesis 4a). Self-efficacy will be an influential determinant of the impact of school collective-efficacy on job satisfaction (Hypothesis 4b). Teachers' self-efficacy, perceived school collective-efficacy and job satisfaction, separately, and, as a group, will positively influence their experienced emotion at school, mainly the self-, context- and future-related (Hypothesis 5a). Self-efficacy and perceived school collective-efficacy, together, will have positive effects on the impact of job satisfaction on the emotions (Hypothesis 5b). In addition, self-efficacy will be an influential factor of the impact of collective efficacy on the effect of job satisfaction on the emotions (Hypothesis 5c).

Method

Participants

The participants were 268 elementary school teachers (113 men, 155 women), who were recruited from 85 state schools from various regions of Greece, representing a variety of Greek school settings. Their age ranged from 25 to 57 years, with average age of 45 years, SD = 5.9. They reported teaching experience from 3 to 27 years with balance among years of teaching experience.

Measurements

Emotions. The scale of the teachers' experienced emotions at school consisted of seventeen emotions: Happiness, pleasure, pride, encouragement, confidence, calmness, not angry-angry, flow-not flow, cheerfulness, exciting, not irritated-irritated, hope, competence, not nervousness-nervousness, anxiety, enthusiasm and not boredom-boredom. The teachers were asked to indicate the extent to which they usually experienced each of the above eighteen emotions at school during the current school year. The emotions had the form of adjectives, with the positive pole having the high score of 7 and the negative pole having the low score of 1 (e.g., happy 7 6 5 4 3 2 1 unhappy). The construction of the scale was based on previous similar re- searches (see Pekrun, Goetz, Frenzel, Barchfeld, & Perry, 2011; Schutz & DeCuir, 2002; Sutton & Wheatley, 2003; Weiner, 2001, 2005), and it is a valid and reliable research instrument in studying experienced emotions in education in Greek population (see Stephanou, 201; Stephanou, Kariotoglou, & Ntinas, 2011; Stephanou & Mastora, submitted). Cronbach's alpha value was .89.

Self-efficacy, Perceived School Collective-efficacy, Job satisfaction. The teachers' self-efficacy, perceived school collective-efficacy and job satisfaction were examined by a respective subscale which driven from Caprara et al.'s (2003) booklet. The teachers indicated the extent of their agreement with each of the item on a 7-point scale, which ranged from 1 = strongly disagree to 7 = strongly agree.

The teachers' self-efficacy was estimated via twelve items, which measured teachers' beliefs in their ability to handle effectively various tasks, challenges and obligations associated with their professional role in various setting and relations (e.g., "I am capable of dealing effectively with the problem behaviors of my students"). Cronbach's alpha value was .84.

Nine items measured teachers' beliefs that the school, as a whole, is capable to handle effectively, various demands, challenges and difficulties that are related to its institutional role. (e.g., "Our school is capable of overcoming successfully the various difficulties that may arise"). Cronbach's alpha = .77.

The job satisfaction scale consisted of four items (e.g., "I am fully satisfied with my job"). The construction of this subscale was based on the by Borgogni's (1999) modification of the Job Descriptive Index (Smith, Kendal, & Hulin, 1969). In the present study Cronbach's alpha value was .73.

Personal factors. A set of questions was about the participants' personal factors (e.g., gender, teaching experience).

Procedure

Permission to participate was obtained from each sample school prior to administering the scales. The participants were provided written information about the aim of this research. The teachers individually completed the scales in a quite classroom in front of the researches during school time. To ensure that the teachers had good time to form an impression about the examined variables, data were collected at the middle of a school year. Also, in order to ensure that any relation among the tested variables was not due to procedure used, the teachers completed, first, the emotion scale, then the job satisfaction teaching scale, followed by the collective-efficacy scale, and, finally, the self-efficacy scale. The teachers were asked to choose a code name and use it on all the questionnaires to match the scales that were responded by the same teacher. The participants were assured of anonymity and confidentiality.

Results

Teachers' Self-Efficacy, Collective Efficacy, Job Satisfaction and Emotions

The presented findings in **Table 1**, confirming Hypothesis 1, show that the teachers' self-efficacy, collective efficacy beliefs and job satisfaction ranged from moderate to high.

The results from the repeated measures ANOVA, in which the teachers' experienced emotions at school over the school year was the within-subjects factor, revealed that the teachers experienced a variety of intensity of emotions, $F(17, 251) = 60.84$, $p < .01$, $\eta^2 = .78$. Specifically, inspection of the scores and standard deviation in **Table 1** and the post hoc pairwise comparisons showed that the teachers experienced form moderate negative emotions to moderate positive emotions. Furthermore, competence, not boredom, pride, pleasure and happiness were the most intense positive emotions while anxiety, irritation, nervousness and non confidence were the most intense negative emotions.

These results totally and partly confirmed Hypothesis 2a and 2b, respectively.

Effects of Self- Efficacy on Collective-Efficacy and Job Satisfaction

The results form correlation coefficient analysis indicated that self-efficacy was positively related to collective efficacy ($r = .82$, $p < .01$). Furthermore, the results from bivariate regression analysis revealed that the teachers' self-efficacy had positive effect on their perceptions of collective efficacy of school, explaining 55% of the variance, $F(1, 266) = 33.64$, $p < .01$, beta

Table 1.
Teachers' self-efficacy, school collective-efficacy, job satisfaction and experienced emotions at school.

	Mean	SD
Self-efficacy	5.48	.76
Collective efficacy	5.38	.77
Job satisfaction	5.69	.79
Emotions		
Happiness	4.86	1.24
Pleasure	4.91	1.07
Pride	4.92	1.53
Encouragement	4.00	1.58
Confidence	4.57	1.13
Calmness	4.24	1.46
No anger – anger	4.04	1.71
Flow	4.62	1.14
Cheerfulness	4.80	1.33
Exciting	4.18	1.71
No irritation-irritation	3.77	1.85
Hope	4.27	1.58
Competence	5.02	1.33
No nervousness-nervousness	3.78	1.77
No anxiety-anxiety	3.66	1.70
Enthusiasm	4.77	1.45
Not boredom-boredom	4.97	1.52

= .74, t = 18.37, $p < .01$. These findings confirmed Hypothesis 3.

The results form correlation coefficient analyses showed that the higher the self ($r = .77$, $p < .01$)- and collective ($r = .65$, $p < .01$)-efficacy, the higher the job satisfaction. In addition, the findings from hierarchical regression analysis, in which the teachers' job satisfaction was the predicted variable, and their self-efficacy (entering into second step of the analysis) and school collective-efficacy (entering into first step of the analysis) were the predictor variables (**Table 2**), showed that a) self-efficacy and collective efficacy, together, positively influenced job satisfaction, accounting 59% of the variance; b) collective efficacy and, mainly, self-efficacy contributed into generation of job satisfaction; and c) self-efficacy had direct effect on job satisfaction beyond that of collective efficacy, $R^2ch = .16$.

Thus, Hypotheses 4a and 4b were in the main confirmed.

The Role of Self-Efficacy and Collective-Efficacy in the Impact of Job Satisfaction on Emotions

A series of hierarchical regression analyses, with enter method, were conducted, in which each of the teachers' experienced emotions at school over the school year was the predicted variable, and self-efficacy, collective efficacy and job satisfaction were the predictive variables. Self-efficacy, collective efficacy and job satisfaction were entered into third, sec-

Table 2.

Results from hierarchical regression analyses for the effect of teachers' self-efficacy on the impact of their school collective-efficacy beliefs on job satisfaction.

	Step	R^2ch	R^2	F (df)	Fch (df)	beta	t
CE	1st	.43	.43	109 (1, 266)	109 (1, 266)	.21	3.63
SE	2nd	.16	.59	136 (2, 265)	122 (1, 265)	.59	10.16

Note: All F-, Fch- and t- values, *p* < .01; CE: Collective efficacy; SE: Self- efficacy.

ond and first step of the analysis, respectively. These analyses revealed the following results.

The three concepts, as a group, explained from a small to moderate amount of the variance of the emotions, R^2 ranged form .09 to .35, and mainly accounted in the variance in the emotions of happiness (R^2 = .27), confidence (R^2 = .31), hope (R^2 = .24), flow (R^2 = .35) and no boredom–boredom (R^2 = .19).

Also, the impact of job satisfaction on the emotions was to a significant extent mediated by teachers' perceptions about their school collective efficacy, R^2ch ranged from .017 (exciting) to .12 (happiness).

Self-efficacy had direct, R^2ch ranged from .016 for happiness to .052 for hope, and indirect effect, through the interaction of collective efficacy and job satisfaction, on the emotions.

The teachers' self-efficacy, collective efficacy and job satisfaction were positively associated with their experienced emotions over the school year. Furthermore, the higher the teachers' self-efficacy was, the higher their perceptions of the school efficacy were and the higher their satisfaction with their job was, the more intense their positive emotions were. However, no one of the three concepts was correlated to the emotion of nervousness, while job satisfaction was not associated with the emotions of pleasure, encouragement, calmness, no anger-anger and competence.

Also, while the efficacy beliefs and job satisfaction accounted in the variance in the emotional experience, their relative power in influencing emotions differed across the emotions and within each emotion. More precisely, self-efficacy, compared to both collective efficacy and job satisfaction, was the most powerful formulator of most of the emotions, with the exception being in the emotions of calmness and flow, which were best predicted by the perceived collective efficacy, and in the emotions of cheerfulness and anxiety, which were only predicted by job satisfaction. On the other hand, collective efficacy, in comparison to job satisfaction, was a more powerful determinant of the emotions, expect of the emotion of no boredom-boredom, into which collective efficacy had no significant contribution.

Also, self-efficacy best predicted the emotions of hope, confidence, no irritation- irritation, no boredom-boredom, happiness, pleasure and encouragement than it did in the rest of the emotions. Collective efficacy was a more powerful formulator of the emotions of flow, confidence, excitement, no irritation-irritation, happiness and encouragement than of the rest of the emotions. Finally, the emotions of confidence, hope, happiness, no irritation-irritation and excitement, as compared to the other emotions were better predicted by job satisfaction.

Hypotheses 5a, 5b and 5c were in the main confirmed by the above results.

Discussion

This study focused on the relationship of teachers' self- and collective-efficacy beliefs with their job satisfaction and experienced emotions at school. The results in the main confirmed our hypotheses and previous research evidence.

Efficacy Beliefs and Job Satisfaction

The findings from the present study, supporting previous research evidence (e.g., Klassen et al., in press; Wolters & Daugherty, 2007), revealed that the elementary school teachers had from moderate to high self-efficacy and collective efficacy beliefs, and they were satisfied with their job. It seems that the participants worked in supportive school climate, with cooperative colleagues and parents, and with children making progress (Betoret, 2006; Caprara, Barbaranelli, Borgogni, & Petitta et al., 2003; Cockburn & Haydn, 2004; Goddard & LoGerfo, et al., 2004; Schwarzer & Hallum, 2008; Skaalvik & Skaalvik, 2007). These findings are in contrast to other studies which show that teachers in higher grade levels reported lower self-efficacy and job satisfaction than teachers in lower grade (see Klassen & Chiu, 2010). Research should examine how school level and context influence teachers' efficacy beliefs and job satisfaction.

Also, in consistency with previous researches (e.g., Hackman et al., 2000; Caprara et al., 2003; Caprara et al., 2006; Klassen & Chiu, 2010; Tschannen-Moran & Woolfolk Hoy, 2001), teachers' self efficacy beliefs appeared to be a significant determinant of the formulation of their collective efficacy beliefs and job satisfaction. Furthermore, teachers' self-efficacy had positive effects on their perceptions of school collective efficacy, which, in turn, influenced teachers' job satisfaction. This specific finding suggests, in agreement with other researches (e.g., Klassen et al., in press), that not teachers' self-efficacy and collective efficacy influence job satisfaction in the same way and extent.

Emotions

Confirming in the main our predictions, the teachers experienced a variation of intensity of emotions at their school, underlying the high importance of their professional role in their self-identity, since under high ego involvement conditions individuals feel such emotional pattern (Frijda, 2009; Lambert et al., 2009; Roseman & Smith, 2001; Stephanou, 2011; Stephanou et al., 2011; Stephanou & Tsapakidou, 2007a; Sutton & Wheatley, 2003; Weiner, 2001, 2005). The teachers' distinct professional role in their whole life was also supported by the nature of the reported emotions, based on Seligman's (2002) view of classification of emotions. Specifically, they considered the development of their professional life, by experiencing emotions which are related to the past (e.g., pride/shame), the present (e.g., pleasure/displeasure) and the future (e.g., confidence/non confidence, hope/ hopelessness).

The teachers' variation of the experienced emotions in school, in addition, reflects the respective variation of the sources. Furt hermore, the teachers mainly felt intense context (not boredom)-, task (pleasure)- and self (competence, pride)-related positive emotions, stressing the influential role of the context and self beliefs in it, in consistency with previous studies (Frijda, 2009; Pekrun & Stephens, 2009; Sutton & Wheatley, 2003). The teachers, on the other hand, experienced more intense the

Table 3.
Results from hierarchical regression analyses for the effect of teachers' self-efficacy on the impact of collective efficacy on the effect of job satisfaction on the emotions.

Emotions		Steps	R^2	R^2ch	F	Fch	beta	t
	Job satisfaction	1st	.13		42.43		.22	9.55
Happiness	Collective efficacy	2nd	.26	.124	46.82	44.35	.37	4.59
	Self-efficacy	3rd	.27	.016	33.72	5.81	.54	2.41
	Job satisfaction	1st	--		--			
Pleasure	Collective efficacy	2nd	.12	.12	18.44	21.87	.25	2.81
	Self-efficacy	3rd	.14	.021	14.48	6.30	.57	2.51
	Job satisfaction	1st	.09	.09	28.65		.19	5.44
Pride	Collective efficacy	2nd	.12	.03	19.57	9.96	.21	2.30
	Self-efficacy	3rd	.12	--	13.26	--	.49	5.20
	Job satisfaction	1st	--		--			
Encouragement	Collective efficacy	2nd	.17		27.75	19.89	.36	4.19
	Self-efficacy	3rd	.18	.012	18.64	4.89	.52	3.69
	Job satisfaction	1st	.19		66.92		.29	10.55
Confidence	Collective efficacy	2nd	.28	.087	55.89	32.68	.48	3.38
	Self-efficacy	3rd	.31	.027	40.25	10.88	.64	3.23
	Job satisfaction	1st	--		--			
Calmness	Collective efficacy	2nd	.10		14.78		.19	1.98
	Self-efficacy	3rd	.10	--	9.61	--	---	
	Job satisfaction	1st	--		--			
No anger-anger	Collective efficacy	2nd	.07		19.42		.31	5.34
	Self-efficacy	3rd	.10	.031	9.89	9.13	.48	3.02
	Job satisfaction	1st	.25		91.82		.39	9.85
Flow	Collective efficacy	2nd	.34	.089	69.98	35.98	.50	5.15
	Self-efficacy	3rd	.35	--	46.44	--	---	
	Job satisfaction	1st	.09		28.48		.32	5.32
Cheerfulness	Collective efficacy	2nd	.09	--	14.39	--	---	
	Self-efficacy	3rd	.09	--	9.65	--	---	
	Job satisfaction	1st	.16		16.04		.21	4.99
Exciting	Collective efficacy	2nd	.17	.017	27.49	4.96	.43	5.48
	Self-efficacy	3rd	.18	.019	19.97	3.57	.47	2.89
	Job satisfaction	1st	.11		32.85		.23	8.02
No irritation - irritation	Collective efficacy	2nd	.14	.039	23.16	12.14	.40	2.02
	Self-efficacy	3rd	.20	.051	22.08	16.92	.69	4.11
	Job satisfaction	1st	.10		30.95		.22	9.23
Hope	Collective efficacy	2nd	.19	.089	31.82	29.37	.40	2.68
	Self-efficacy	3rd	.24	.052	28.64	18.91	.77	4.26
	Job satisfaction	1st	--		--			
Competence	Collective efficacy	2nd	.09		13.61		.24	2.71
	Self-efficacy	3rd	.10	.019	10.73	5.62	.24	2.37
	Job satisfaction	1st	--					
No nervousness- nervousness	Collective efficacy	2nd	--					
	Self-efficacy	3rd	--					
	Job satisfaction	1st	.05		8.89		.15	3.37
Not anxiety - anxiety	Collective efficacy	2nd	--	--	--	--	---	
	Self-efficacy	3rd	--	--	--	--	---	
	Job satisfaction	1st	.07		21.34		.18	3.55
Enthusiasm	Collective efficacy	2nd	.09	.025	14.47	7.26	.28	3.23
	Self-efficacy	3rd	.10	.019	10.77	3.89	.32	1.97
	Job satisfaction	1st	.17		55.34		.18	6.63
Not boredom - boredom	Collective efficacy	2nd	.17	--	27.93	--	---	
	Self-efficacy	3rd	.19	.021	21.31	6.85	.57	2.16

Note: Only the variables that were related each other were included in the analyses; All F- and Fch-values, $p < .01$; t ≤ 2.51, $p < .05$, t > 2.51, $p < .01$.

self-task (anxiety)- and other (irritation, nervousness)-related negative emotions than the rest of the emotions, indicating the determinant role of the significant others, such as school administration, students and colleagues in their well being (see Buss & Hughes, 2007; Frenzel et al., 2009; Lambert et al., 2009; McCormick & Barnett, 2011; Parrrott, 2003; Schutz, Hong, Cross, & Osbon, 2006; Summers & Davis, 2006; Yoon, 2002).

It should mentioned that high anxiety can impairs task relevant processing, such as solving the various problems that occur every day in school (Ashcraft & Kirk, 2001; Schutz & DeCuir, 2002). Generally, teachers' negative emotions may confront their goals and classroom management, and affect their intrinsic motivation and efficacy beliefs (see Blase, 1986; Derryberry & Tucker, 1994; Keltner et al., 1993; Emmer, 1994).

Lack of intensive negative emotions at school may be partly explained by the participants' educational level. Probably the primary school 'caring for their students' overcome the possible children's misbehaviour and/or academic problems and, hence, in contrast to other studies in middle school (e.g., Hargreaves, 2000; Sutton, 2000), intense anger and irritation did not arise. Also, perhaps the colleagues and parents were cooperative resulting in lack of such emotions (Erb, 2002; Lasky, 2000).

Effects of Efficacy Beliefs and Job Satisfaction on Emotions

The pattern of the effect of teachers' efficacy beliefs and job satisfaction on their experienced emotions at school supports the notion that perceptions of self, task and context contribute into an emotional experience in a given school situation (Boakaerts & Corno, 2005; Pekrun, Frenzel, Goetz, & Perry, 2007; Pekrun, Goetz, Daniels, Stupnisky, & Perry, 2010; Schutz & Lenehart, 2002; Stephanou, 2011, Stephanou et al., 2011; Turner & Schallert, 2001; Weiner, 1992, 2001). Also, the teachers might have appraised the status of self- factors in pursuing their goals that include being good in teaching and fitting the mission of their school, since emotions, such as anxiety, are experienced in relationship to goals (Carver & Scheier, 2000; Frijda, 2005, 2009; Linnenbrink & Pintrich, 2002; Pekrun, Maier, & Elliot, 2009). Yet, the three concepts, as a group, mainly influenced the generation of the outcome (happiness)-, task (flow)-, future activity (not boredom)- and future behaviour (confidence, hope)-related emotions, underling their significant role in teachers' future behaviour, motivation and professional development (see Bandura, 2006; Reyna & Weiner, 2001; Skaalvik & Skaalvik, 2007; Sutton & Mudrey-Camino, 2003; Tschannen-Moran & Woolfolk Hoy, 2001).

Confirmation of higher than lower self-efficacy, collective efficacy and job satisfaction reported more intense positive emotions, except of the emotion of nervousness, which was not predicted by any of the three concepts. This specific finding addresses the necessity of clarification of the sources (and consequences) of teachers' emotions.

As expected, teachers' self-efficacy, as compared to their collective efficacy and job satisfaction, proved to be a significant advantage in their emotional experience at school, with the exception being in the emotions of calmness, flow and anxiety. More precisely, the emotions of calmness and flow were mainly formulated by collective efficacy, reflecting the contribution of the task- and context- related factors, such as administrators, parents, colleagues in school collective efficacy, and, in turn, in

emotions. On the other hand, job satisfaction was the solo predictor of the emotion of anxiety, which is goal related, while it had no effect on the emotions of pleasure, encouragement, calmness, no anger and competence.

The limited role of job satisfaction on teachers' positive emotions may hind that, although teachers gain satisfaction from their job, they experience stress (the experience of negative emotions resulting from their work). This argument is supported by previous studies, documenting the major role of stress on teachers' job satisfaction (Liu & Ramsey, 2008).

Also, self-efficacy and collective efficacy beliefs had unique and complimentarily effect on the emotions, lending further support to the earlier findings about their dinstict conceptualization (see Goddard et al., 2004).

The nature of the emotions that were best predicted by self-efficacy may be partly explained by its influential factors (Bandura, 1997, 2006; Lapone, 2004; Ross, 1998; Tschannen-Moran & Johnson, 2011). Self-efficacy might have based on factors, such as ability, effort and motivation. Accordingly, it could be expected that competitive dependent-emotions, such as confidence and encouragement, and expectancy dependent-emotions, such as hope, would be predicted by self-efficacy (Ross, Cousins, & Gadalla, 1996; Weiner, 2005). The prediction of the general- and context-related emotions, such as pleasure, not irritation and no boredom, reflects the high self-efficacious' capacity in controlling their surroundings and enjoy task-involvement (see Bandura, 1997; Ross, 1998; Csikszentmihalyi, 1990; Pajares & Schunk, 2005; Pekrun et al., 2010; Schmitz & Schwarzer, 1999; Wheatley, 2005).

In a similar way, collective efficacy proved best predictor of the competitive dependent-emotions underling the teachers' perceptions of their school, as a whole, capacity as well as it was determinant formulator of the context (flow, excitement)- and general (happiness)-related emotions, reflecting the major role of the school-related factors in in collective efficacy (see Caprara et al., 2003; Klassen et al., in press).

Implications of the Findings in Education and Future Research

Self efficacy was found to influence collective efficacy, while the two concepts had unique and complimentarily effect on teachers' job satisfaction and emotions. Therefore, it is essential to design teacher in-service programs that promote self-efficacy, and foster the various school constituencies that develop a robust sense of collective efficacy.

The present findings also suggest that emotional experience constitutes an important aspect of teacher's involvement at school, and, accordingly, teachers' recognition and regulation of their emotions is an essential part of effective professional life and subjective well-being. Self-factors, such as ability, motivation, effort and stress, along with school constituencies were considered as explanations of the present results. Therefore, it is interesting to examine how such factors influence the inter-correlations among the examined variables. To overcome the limitations of this study, and expand, in addition, knowledge about the considered variables, future research should be performed in various domains and academic subjects, and across teaching levels and ages.

Conclusively, investigating teachers' efficacy beliefs, along with job satisfaction and emotions, provides useful information in understanding their motivation and behaviour.

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