Scientific Research

Does the Metacognitive Attitude Predict Work Motivation in Italian Teachers?

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Abstract

Motivation to teach is a complex construct; often it is not observed directly but rather inferred from the teachers' behavioural indexes, such as verbalisations, task choices and goal-directed activities. It is related to what energises, directs and sustains teachers' behaviour as they move toward accomplishing their goals of student achievement. Metacognitive attitude is considered an interrelated concept to motivation to teach and refers to teachers' conscious awareness of their thought processes; it is considered as an essential component of the process of teaching for learning. It includes self-regulation (teacher self-regualted are able to transform their mental ability and teaching knowledge into teaching skills in the classroom with their students) and self-efficacy (it refers to teachers' beliefs about their own values, competencies, and accomplishments). The present study investigates the relation between work motivation and metacognitive attitude in a sample of Italian teachers, working in Primary, Middle and High School. Data analysis showed strong correlation between the two dimensions investigated, giving important suggestions about teachers' lifelong learning.

Keywords

1. Introduction

Work motivation is an essential incentive to increase work performance and job satisfaction; teacher motivation is an essential factor for classroom effectiveness and also for school improvement [1]. To understand and enhance the commitment of teachers, teacher motivation and related constructs (such as teaching beliefs and orientation)

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are frequently studied [2]. In teaching, work motivation is associated to well-being in the classroom, effective learning, and a high level of student motivation. Motivation of teachers is strictly related to the perceived self-efficacy in teaching, good students' performance, self-determination, and control of the teaching-learning relationship [3]. Teachers' perceived self and collective efficacy has emerged as an important topic in educational research [4]-[11]. A strong sense of teachers' self-efficacy promotes a firm commitment to the profession and collaborative relationships with colleagues and parents [12]-[14]. All these dimensions—self-efficacy, self-determination and control—are included in the Metacognitive Attitude. Teachers who possess the Metacognitive Attitude have high levels of satisfaction in work, are able to manage their emotions when dealing with students, are assured when facing critical situations, and use different strategies in different classrooms [3]. The theory of self-determination [15] states that people, and also workers, are motivated to satisfy three natural and universal needs: competence (to be able to carry out tasks and achieve positive results), autonomy (to be able to choose freely), and acceptance (by other people). There is a strong research indicating that, as teachers become more aware of their ability to teach, then their self-efficacy increases. As a result, their self-competence improves by developing a metacognitive-self-regulatory approach through an inquiry process of reflective thinking on why, what, and how to teach [16], [17]. As an extensive review of literature has clearly documented [10], [18], teachers with a strong sense of efficacy exhibit greater levels of planning and organization [19], are more open to new ideas and are more willing to experiment with new methods to better meet the needs of their students [20], [21]. They also exhibit greater enthusiasm for teaching [19], have greater commitment to teaching and are more likely to stay in teaching. Also, they are likely to exert a determinant positive influence on students' achievements and their own sense of efficacy [22], [23].

Even though the studies cited above consider work motivation, in our literature review no individual study investigates work motivation with directed measures.

1.1. Teaching and Gender

Considering that school teachers in the United States [24] and in the whole western world are mainly female, especially in elementary school (>90%), the relatively low number of male teachers in schools has become increasingly seen by governments across the western world as a matter of genuine concern [25]-[28]. Skelton [29] highlights that the basis for this problem as having arisen from the discussions around boys' underachievement where one of the explanations for the apparent disaffection of schoolboys is the "feminisation" of primary schooling. There are various ways in which this "feminisation" is perceived to be taking place, but the main issue is the predominance of female teachers which has been argued to have led to primary schools favouring girls and "girls' learning styles over boys" [30], [31]. Moreover, as Martin and Zenong underline [32], the facets of classroom management may vary as a function of the teacher's gender. Although there are a number of studies that consider how teachers differ in their responses to male and female students, few consider the teacher's gender in these interactions [33]. However, related research indicates that a connection between the teacher's gender and classroom management is probable. Research consistently reveals that males are more likely to take control of the conversation by choosing the topic, interrupting more, and speaking for longer duration [34], [35]. Women, on the other hand, are more likely to use helplessness as a way of influencing others [36], [37]. Girls are more polite and less competitive while boys tend to be more assertive, aggressive, and dominant than girls [34].

1.2. Aim of the Study

The purposes of this study are as follows:

1) Considering that in Italy, as in the western world, teaching is typically a "female" profession, preliminarily verify gender differences in all dimensions analysed;

2) Verify the differences in metacognitive attitudes and work motivation in different school levels (primary, junior high and high school) and possible effects of co-variation with gender;

3) Verify if the use of a metacognitive attitude in teaching is a predictor of an effective work-motivation.

2. Methodology

2.1. Participants and Procedures

The participants were 328 Italian teachers (98 males, 227 females, and three missing values), aged between 27 and

67 years (M = 49.51; SD = 7.73), and working in Italian primary and high schools. **Table 1** shows gender distribution between school levels.

Data has been collected over two scholastic years. Tests have been administrated collectively, anonymously, and without time limits. Teachers were not obligated to provide to participate in data collection. This procedure was reviewed and approved by the Ethics Commission of Kore University.

2.2. Instruments

We have investigated two dimensions: metacognitive attitude and work motivation.

In order to measure metacognitive attitude we used MESI—Motivation, Emotions, Strategies, and Teaching. Metacognitive Questionnaires for Teachers [3]. It is a battery of self-report questionnaires, which includes:

1) *Questionnaire of job satisfaction* (adapted from Pavot & Diener [38]), 5 items with Likert scale with 7 points. Cronbach's α is 0.84.

2) *Questionnaire of teaching practices*, 25 items with Likert scale with 5 points. Cronbach's α is 0.83.

3) *Questionnaire of emotions in teaching*, which regards positive and negative emotions during teaching and positive and negative emotions as teacher (role), 30 items with Likert scale with 5 points. Cronbach's α is 0.90.

4) *Questionnaire of teaching strategies*, 30 items with Likert scale with 5 points. Cronbach's α is 0.91.

5) *Questionnaire of self-efficacy in teaching* (adapted from Tschannen-Moran & Hoy [19]), 24 items with Likert scale with 9 points. Cronbach's α is 0.96.

6) *Questionnaire of incrementality beliefs* which evaluates the perceived improvability of a series of competencies involved in situations of teaching and class management, 16 items with Likert scale with 9 points. Cronbach's α is 0.95.

In order to measure work motivation we used WOMI—Work and Organisational Motivation Inventory [39]. A multidimensional questionnaire evaluates four macro-areas of working motivation. The authors present Cronbach's α calculated for each subscale; the Cronbach's α for macro-areas have been calculated on the sample of this study:

1) *Reward* (21 items, $\alpha = 0.72$) is a motivation to get to the top of the organization and to be recognized by the colleagues as a good worker; it includes Career ($\alpha = 0.74$), Status ($\alpha = 0.76$), Remuneration ($\alpha = 0.75$), Feedback ($\alpha = 0.68$).

2) *Success* (25 items, $\alpha = 0.84$), reflects the individual's desire to guide, encourage, influence others, and includes Management ($\alpha = 0.77$), Activity ($\alpha = 0.70$), Achievement ($\alpha = 0.76$), Dominance ($\alpha = 0.70$).

3) *Competence* (28 items, $\alpha = 0.67$), is the motivation to increase skills and to carry out the tasks, and maintaining high standards. Workers motivated by competence fully use their skills and creativity to solve problems. They want an ethical organization that matches their own values, takes care of social relations, grouplife and of the needs of internal (co-workers) and external clients; this macro-area includes Psychological Climate ($\alpha = 0.70$), Ethics ($\alpha = 0.75$), Freedom/flexibility ($\alpha = 0.67$), Self-realization/growth ($\alpha = 0.84$), External and Internal Client ($\alpha = 0.70$).

4) *Stability* (36 items, $\alpha = 0.67$), is the need to ensure physical integrity and a stable and safe social dimension. Workers motivated by stability want to work in a comfortable environment with a good work/family life balance; it includes Interest ($\alpha = 0.70$), Security ($\alpha = 0.76$), Comfort ($\alpha = 0.65$), Physical environment ($\alpha = 0.69$), Work-life balance ($\alpha = 0.70$).

3. Results

Considering the prevalence of women among teachers in Italian schools, first of all we have analysed gender

Table 1. Gender and school level distribution.

	Primary school	Junior high school	High school	Total
Males	8	27	63	98
Females	70	70	87	227
Missing	2	1	0	3
Total	80	98	150	328

differences with a t test for independent samples, which are reported in **Table 2** and **Table 3**. Results show many significant differences between men and women in Metacognitive Questionnaires (**Table 2**); female teachers have higher scores than male teachers in the following dimensions: teaching practices, positive emotions—both as a teacher and during teaching—and the use of teaching strategies. Therefore female teachers appear to possess a Metacognitive Attitude and apply it in their working practice. We should also consider that no score—neither in males nor in females—in the Metacognitive Questionnaire deviates from the norm. Moreover, with respect to the

Table 2. Differences in gender—Metacognitive Questionnaires for Teachers (t test).

Dimensions	Males N = 98		Females N = 227		t	p (t)
	M	SD	M	SD		
Job satisfaction	4.88	1.34	4.88	1.22	−0.01	0.99
Teaching practices	4.03	0.48	4.17	0.38	−2.84	0.01
Positive emotions-role	3.34	0.64	3.58	0.67	−2.99	<0.01
Negative emotions-role	1.80	0.55	1.80	0.56	−0.06	0.95
Positive emotions-teaching	3.57	0.62	3.79	0.58	−3.02	<0.01
Negative emotions-teaching	1.63	0.52	1.72	0.50	−1.44	0.15
Teaching strategies	3.53	0.61	3.81	0.57	−3.89	<0.001
Self-efficacy	7.29	0.96	7.56	0.84	−2.59	0.01
Incrementality beliefs	6.93	1.79	7.34	1.31	−2.32	0.02

Table 3. Differences in gender. Work and Organisational Motivation Inventory (t test).

Dimensions	Males N = 98		Females N = 227		t	p (t)
	M	SD	M	SD		
Career	19.20	3.09	20.31	3.27	−2.84	0.01
Status	19.87	3.47	19.19	3.45	1.61	0.11
Remuneration	18.40	3.02	19.00	2.77	−1.75	0.08
Feedback	14.13	2.11	14.71	2.36	−2.10	0.04
Management	23.64	3.28	23.76	3.45	−0.29	0.77
Activity	9.89	2.31	9.99	2.30	−0.37	0.71
Achievement	21.60	2.94	21.07	3.28	1.40	0.16
Dominance	27.53	3.32	27.18	3.66	0.81	0.42
Climate	13.50	1.87	13.03	1.92	2.05	0.04
Ethics	28.82	3.96	30.79	4.55	−3.73	<0.001
Flexibility	21.71	4.67	23.58	4.92	−3.19	<0.01
Self-realisation	32.66	4.61	35.52	4.98	−4.85	<0.001
Client	31.75	3.54	33.49	3.68	−3.95	<0.001
Interest	14.74	2.14	15.86	2.04	−4.47	<0.001
Security	25.63	3.61	27.25	3.94	−3.48	0.001
Comfort	21.59	3.30	22.67	3.08	−2.83	0.01
Physical environment	14.92	4.51	17.07	4.97	−3.67	<0.001
Work-life balance	16.35	3.30	17.68	3.95	−2.94	<0.01
Reward	17.90	2.26	18.30	2.31	−1.45	0.15
Success	20.67	2.29	20.50	2.35	0.59	0.56
Competence	25.69	2.77	27.28	3.09	−4.40	<0.001
Stability	18.65	2.56	20.11	2.84	−4.38	<0.001

statistic information in the test manual, we can observe a greater number of gender differences in our sample than in the normative sample.

In the Work and Organisational Motivation Inventory, we also find many gender differences (**Table 3**): female teachers show higher scores in the following motivational dimensions: career and feedback, that are included in the macro-area reward; ethics, self-realisation, client, that are included in the macro-area competence (that also shows significant gender differences); interest, security, comfort and work-life balance, that belong to the macro-area stability, which has significantly higher scores in female teachers than in male teachers. Comparing the scores of our sample with the norms of the test, we can observe that some dimensions have lower scores: climate, flexibility and physical environment in both men and women, which seem to be the less motivational aspects of the work; self-realisation in male teachers, who consider their work as not relevant for the realisation of their professional identity.

Considering the numerous gender differences, in order to verify the effect of interaction between different levels of school and gender we used the Two Factors Analysis Of Variance test for independent samples. We will only outline significant results.

As reported in **Table 4**, we can observe the following results in Metacognitive Questionnaires:
- scores in *Teaching Practices*, that assesses the frequency of using "best practice" in teaching, are higher in female teachers in Primary School and significantly lower in Middle School;
- scores in *Positive Emotions as Teachers and in Teaching* show in female teachers the same trend as the previous point;
- scores in *Negative Emotions in Teaching* are higher, in both male and female teachers, in Middle School;
- scores in *Teaching Strategies,* that assesses the frequency of using "best strategies" in teaching, evident in male and female teachers, are significantly lower in High School than in Middle and Primary School;
- scores in *Self-Efficacy in Teaching,* are shown to be increasing in male teachers.

Table 5, therefore, shows the results in Work and Organisational Motivation Inventory:
- *career*: for male teachers is more motivational aspect in primary school and scores lower in Middle and High School;
- for both male and female teachers, *remuneration* is more important in Middle School and less important in High School;
- the scores in *feedback*, that indicate the need to be appreciated by colleagues and superiors, have lower scores in High School;
- Scores in *climate,* that refers to the need to work in friendly psychological climate, show increase in importance from Primary to High School;
- Scores in *ethics*, that indicate working behaviour according to moral principles, have higher scores in higher school levels, especially for female teachers;
- scores in *flexibility*, *self-realisation*, *interest*, *security*, *client*, *physical environment* and *work-life balance* are significantly lower in high school than in other school levels;
- scores in macro-areas *reward*, *competence* and *stability* are significantly lower in high school than in other school levels.

Table 4. Significant differences for school level and gender. Metacognitive Questionnaires for Teachers (two factors AnOVa).

	Primary school N = 80		Junior high school N = 98		High school N = 150		F (school level)	F (gender)	F (interaction)
	M N = 8	F N = 70	M N = 27	F N = 70	M N = 63	F N = 87			
Dimensions	M	M	M	M	M	M			
Teaching practices	3.95	4.21	4.07	4.15	4.02	4.15	0.12	6.02*	0.53
Positive emotions-role	3.49	3.80	3.34	3.60	3.32	3.38	2.78	4.39*	0.87
Positive emotions-teaching	3.62	3.96	3.52	3.73	3.59	3.69	0.88	5.82*	0.59
Negative emotions-teaching	1.60	1.63	1.84	1.92	1.55	1.63	9.19***	0.79	0.03
Teaching strategies	3.75	4.06	3.68	3.81	3.44	3.60	7.91***	5.29*	0.30
Self-efficacy	7.08	7.77	7.15	7.42	7.37	7.50	0.76	7.17**	1.23

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Table 5. Significant differences for school level and gender. Work and Organisational Motivation Inventory (two factors AnOVa).

Dimensions	Primary school N = 78		Junior high school N = 97		High school N = 150		F (school level)	F (gender)	F (interaction)
	M N = 8	F N = 70	M N = 27	F N = 70	M N = 63	F N = 87			
	M	M	M	M	M	M			
Career	22.00	21.16	21.41	22.23	17.91	18.08	60.67***	0.02	1.05
Remuneration	20.13	18.76	20.22	20.19	17.40	18.24	21.33***	0.20	2.31
Feedback	14.50	14.80	15.00	15.86	13.71	13.72	16.34***	1.35	0.98
Climate	12.00	11.97	12.07	12.06	14.30	14.66	84.68***	0.20	0.50
Ethics	33.25	32.86	31.85	33.43	26.95	27.00	93.00***	0.63	1.61
Flexibility	26.25	26.04	26.44	27.19	19.11	18.70	196.98***	0.01	0.91
Self-realisation	36.25	37.39	36.48	38.86	30.57	31.33	95.63***	6.14**	1.22
Client	34.25	34.17	33.56	34.89	30.65	31.81	2.32	24.07***	0.48
Interest	15.25	16.46	16.44	16.74	13.94	14.66	44.58***	6.83**	0.72
Security	29.00	28.19	27.63	29.14	24.35	24.98	37.83***	0.69	1.26
Physical environment	20.86	19.81	19.22	20.67	12.32	11.95	233.68***	0.00	3.20*
Work-life balance	19.00	19.33	19.41	20.17	14.70	14.36	102.14***	0.33	1.02
Reward	19.22	18.49	19.19	19.54	17.18	17.16	30.66***	0.17	0.74
Competence	28.40	28.49	28.08	29.28	24.32	24.70	103.83***	2.54	1.07
Stability	21,20	22.23	20.87	21.88	17.37	17.77	100.69***	2.20	0.79

*p < 0.05; **p < 0.01; ***p < 0.001.

In order to verify if the use of a metacognitive attitude in teaching is a predictor of an effective work-motivation, we used linear regression (beta coefficient, p < 0.05), putting the dimensions of a metacognitive attitude as independent variables and the dimensions of working motivation as dependent variables.

Table 6 shows that the motivation to be competent and to be rewarded are predicted positively from emotions associated to teaching activity and negatively from negative emotions associated to the role of the teacher; motivation to be competent and to have stability are predicted from the use of different strategies with different students or classrooms; instead, job satisfaction is a negative predictor of reward. Moreover, negative emotions in teaching is a predictor of motivation to be rewarded, be competent and have stability; self-efficacy in teaching is a predictor of expectancy of success in working, need of reward and of stability; incrementality beliefs, finally, are predictors of three motivational areas; reward, competence and stability.

4. Discussion

First of all, the verification of the first and second hypotheses emphasises important gender differences between different school levels: teachers who work with children are more motivated and show a higher metacognitive sensitivity than teachers who work with elder students. Maybe the quality of relationship, the perceived value of their role in the growth of their pupils influences the quality of their professional activity. These observations are more relevant for female teachers, in which positive emotions tend to decrease when working with older students. Moreover, didactic approach in primary school favours the increase of learning competences more than in higher levels of schools, in which teaching is more focused on subject content than metacognitive competences.

These results concur with the psychometric studies reported in the test manual of Metacognitive Questionnaires about gender and school level differences, but are in contrast with a recent study [40], which had the aim of exploring similarities and differences among three levels of teachers (Elementary, High School and College) with respect to their satisfaction with teaching and their motivation to persist as classroom practitioners. All three levels of teachers in this study identified Professional Satisfaction factors (e.g. satisfaction in working with students and seeing them learn, enjoyment in teaching the subject, etc.) as the most powerful motivators in their decision to

Table 6. Multiple regressions between metacognitive attitude (Metacognitive Questionnaires for Teachers) and work-motivation (Work and Organisational Motivation Inventory). Beta coefficients for each regression ($p(t) < 0.05$).

Dependent variables Independent variables	Reward	Success	Competence	Stability
Job satisfaction	−0.14[*]	0.02	−0.04	−0.02
Negative emotions-role	−0.28[*]	−0.08	−0.29[*]	−0.25[*]
Positive emotions-teaching	0.28[*]	0.19	0.25[*]	0.13
Negative emotions-teaching	0.42[*]	0.13	0.40[*]	0.42[*]
Teaching strategies	0.12	−0.02	0.17[*]	0.19[*]
Self-efficacy in teaching	0.15[*]	0.19[*]	0.11	0.16[*]
Incrementally beliefs	0.12[*]	0.01	0.20[*]	0.22[*]

[*]$p < 0.05$.

remain in the classroom. It appears that no matter what level teaching occurs, there is a genuine care, concern, and enthusiasm around working with students and seeing them learn and grow. The teachers of our sample, mainly female, seem to feel more effective within the relationship with younger students: this may be because teaching in primary school is more rewarding because students are more involved in learning (growing, the commitment toward schoolwork tends to decrease), and have an emotional-based relationship with their teachers (that often is the only one) who are considered as maternal substitute.

The second important result is the strict association between motivation and metacognitive attitude. Motivation to reward is predicted by all dimensions of metacognitive attitude; motivation to be competent is predicted by emotions related to teaching, use of different strategies in different situations and incrementality beliefs that are core dimensions of metacognitive attitude. Other studies show similar results about the relationships between these dimensions. An Italian research group [41] has demonstrated the validity of a guiding model that conceptualizes self-efficacy and collective-efficacy beliefs as the main determinants of teachers' job satisfaction. Other research findings suggested that goal orientation is a strong predictor of teachers' engagement and successful performance in the classroom [42]-[44]. In a series of papers on job satisfaction and motivation of teachers, Scott *et al.* [45]-[48] found that teachers in different countries generally derive job satisfaction from intrinsic factors in the teaching job: assisting the growth of children, developing good relationships with students, and experiencing self-growth.

The relevant role of metacognitive attitudes in teaching has been confirmed by a number of studies that have pointed to the influence of the teacher's self-efficacy beliefs on children's cognitive achievements and success at school [49]-[53]. As Caprara *et al.* [54] underline, teachers with high self-efficacy beliefs are more likely to implement didactic innovations in the classroom and to use classroom management approaches and adequate teaching methods than teachers with a low sense of self-efficacy. These encourage students' autonomy and reduce custodial control, [20], [55], take responsibility for students with special learning needs [19], [56], manage classroom problems [57], [58], and keep students on task [59].

Although it was certainly expected and confirmed by studies previously presented—that have shown that teachers' self-efficacy beliefs have a crucial role in affecting and sustaining their commitment to school and their job satisfaction—teachers' lifelong learning does however not consider this scientific evidence and it is often based on disciplinary insights rather than on metacognitive strategies. Moreover, the metacognitive attitude is a strong predictor of an effective teaching motivation, confirming the study of Caprara *et al.* [54] which emphasises that teachers' beliefs in their capacity to efficaciously manage class situations, didactical tasks, and interpersonal relationships with the other school members strongly influences their level of satisfaction with job conditions.

5. Conclusion

In conclusion, the results of this study give suggestions to improve life-long learning for teachers; it is necessary to plan organisational intervention on teachers' training, working on their metacognitive abilities, their strategies of teaching based on a metacognitive approach and their beliefs of self-efficacy. This is because the teachers who were most effective at diagnosing and improving student motivation were those who focused on developing competencies rather than conveying notions; the teachers whose instructional styles encouraged autonomy were

also more effective motivators, while those who reported a more controlling style were less effective motivators; the teachers who were better at recognizing low motivation were also better at increasing it [60]; the teachers with high levels of self-efficacy beliefs are more likely to be able to create the conditions and to promote the inter-personal networks that nourish and sustain their work satisfaction [61].

References

[1] Santisi, G., Magnano, P., Hichy, Z. and Ramaci, T. (2014) Metacognitive Strategies and Work Motivation in Teachers: An Empirical Study. *Procedia—Social and Behavioral Sciences*, **116**, 1227-1231. http://dx.doi.org/10.1016/j.sbspro.2014.01.373

[2] Lam, B. and Yan, H. (2011) Beginning Teachers' Job Satisfaction: The Impact of School-Based Factors. *Teacher Development*, **15**, 333-348. http://dx.doi.org/10.1080/13664530.2011.608516

[3] Moè, A., Pazzaglia, F. and Friso, G. (2010) MESI. Motivazioni, Emozioni, Strategie e Insegnamento. Questionari metacognitivi per insegnanti. Erickson, Trento.

[4] Caprara, G.V., Borgogni, L., Barbaranelli, C. and Rubinacci, A. (1999) Convinzioni di efficacia e cambiamento organizzativo. *Sviluppo e Organizzazione*, **174**, 19-32.

[5] Goddard, R.D. (2001) Collective Efficacy: A Neglected Construct in the Study of Schools and Student Achievement. *Journal of Educational Psychology*, **93**, 467-476. http://dx.doi.org/10.1037/0022-0663.93.3.467

[6] Goddard, R.D. and Goddard, Y.L. (2001) A Multilevel Analysis of the Relationship between Teacher and Collective Efficacy in Urban Schools. *Teaching and Teacher Education*, **17**, 807-818. http://dx.doi.org/10.1016/S0742-051X(01)00032-4

[7] Goddard, R.D., Hoy, W.K. and Woolfolk Hoy, A. (2000) Collective Efficacy: Its Meaning, Measure, and Impact on Student Achievement. *American Educational Research Journal*, **37**, 479-507. http://dx.doi.org/10.3102/00028312037002479

[8] Parker, L. (1994) Working Together: Perceived Self- and Collective-Efficacy at the Workplace. *Journal of Applied Social Psychology*, **24**, 43-59. http://dx.doi.org/10.1111/j.1559-1816.1994.tb00552.x

[9] Somech, A. and Drach-Zahavy, A. (2000) Understanding Extra-Role Behavior in Schools: The Relationships between Job Satisfaction, Sense of Efficacy, and Teachers' Extra-Role Behaviour. *Teaching and Teacher Education*, **16**, 649-659. http://dx.doi.org/10.1016/S0742-051X(00)00012-3

[10] Tschannen-Moran, M. and Woolfolk Hoy, A. (2001) Teacher Efficacy: Capturing an Elusive Construct. *Teaching and Teacher Education*, **17**, 783-805. http://dx.doi.org/10.1016/S0742-051X(01)00036-1

[11] Tschannen-Moran, M., Woolfolk Hoy, A. and Hoy, W.K. (1998) Teacher Efficacy: Its Meaning and Measure. *Review of Educational Research*, **68**, 202-248. http://dx.doi.org/10.3102/00346543068002202

[12] Coladarci, T. (1992) Teachers' Sense of Efficacy and Commitment to Teaching. *Journal of Experimental Education*, **60**, 323-337. http://dx.doi.org/10.1080/00220973.1992.9943869

[13] Hoover-Dempsey, K., Bassler, O. and Brissie, J. (1992) Explorations in Parent-School Relations. *Journal of Educational Research*, **85**, 287-294. http://dx.doi.org/10.1080/00220671.1992.9941128

[14] Imants, J. and Van Zoelen, A. (1995) Teachers' Sickness Absence in Primary Schools, School Climate and Teachers' Sense of Efficacy. *School Organization*, **15**, 77-86.

[15] Ryan, R. and Deci, E. (2000) Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. *American Psychologist*, **55**, 68-78. http://dx.doi.org/10.1037/0003-066X.55.1.68

[16] Cardelle-Elawar, M. and Sanz de Acedo, M.L. (2002) Low-Performing Students' Mathematical Learning through Self-Regulation of Emotional Competence. *The Journal of Career Research and Practices in Language Minority Education*, **1**, 35-48.

[17] Cardelle-Elawar, M. (1995) Effects of Metacognitive Instruction on Low Achievers in Mathematics Problems. *Teaching and Teacher Education*, **11**, 91-95.

[18] Tschannen-Moran, M. and Woolfolk Hoy, A. (2002) The Influence of Resources and Support on Teachers' Efficacy Beliefs. *Annual Meeting of the American Educational Research Association*, New Orleans, 1-5 April 2002.

[19] Allinder, R. (1994) The Relationship between Efficacy and the Instructional Practices of Special Education Teachers and Consultants. *Teacher Education and Special Education*, **17**, 86-95. http://dx.doi.org/10.1177/088840649401700203

[20] Guskey, T. (1988) Teacher Efficacy, Self-Concept, and Attitudes toward the Implementation of Instructional Innovation. *Teaching and Teacher Education*, **4**, 63-69. http://dx.doi.org/10.1016/0742-051X(88)90025-X

[21] Stein, M.K. and Wang, M.C. (1988) Teacher Development and School Improvement: The Process of Teacher Change.

Teaching and Teacher Education, **4**, 171-187. http://dx.doi.org/10.1016/0742-051X(88)90016-9

[22] Ashton, P.T. and Webb, R.T. (1986) Making a Difference: Teachers' Sense of Efficacy and Student Achievement. Longman, New York.

[23] Soodak, L. and Podell, D. (1993) Teacher Efficacy and Student Problem as Factors in Special Education Referral. *Journal of Special Education*, **27**, 66-81. http://dx.doi.org/10.1177/002246699302700105

[24] Beilock, S.L., Gunderson, E.A., Ramirez, G. and Levine, S.C. (2010) Female Teachers' Math Anxiety Affects Girls' Math Achievement. *Proceedings of the National Academy of Sciences of the United States of America*, **107**, 1860-1863. http://dx.doi.org/10.1073/pnas.0910967107

[25] Smith, J. (1999) We Need More Males in Primary Teacher Education! Or Do We? *Australian Association for Research in Education Conference*, Melbourne, 30 November 1999.

[26] Lahelma, E. (2000) Lack of Male Teachers: A Problem for Students or Teachers? *Pedagogy*, *Culture and Society*, **8**, 173-186. http://dx.doi.org/10.1080/14681360000200093

[27] Hutchings, M. (2001) Towards a Representative Teaching Profession: Gender. University of North London, London.

[28] Sargent, P. (2001) Real Men or Real Teachers? Contradictions in the Lives of Men Elementary School Teachers. Men's Studies Press, Harriman.

[29] Skelton, C. (2003) Male Primary Teachers and Perceptions of Masculinity. *Educational Review*, **55**, 195-209. http://dx.doi.org/10.1080/0013191032000072227

[30] Biddulph, S. (1998) Manhood. Hawthorn, Stroud.

[31] Hoff-Sommers, C. (2000) The War against Boys. Simon and Shuster, New York.

[32] Martin, N.K. and Zenong, Y. (1997) Attitudes and Beliefs Regarding Classroom Management Style: Differences between Male and Female Teachers. *Annual Meeting of the Southwest Educational Research Association*, Austin, 20 January 1997.

[33] Van Oostendorp, K. (1991) Effect of Student Gender Bias toward the Instructor on Classroom Management at the Secondary Level. Masters Dissertation, Siena Heights College, Siena.

[34] Grossman, H. (1990) Trouble-Free Teaching: Solutions to Behaviour Problems in the Classroom. Mayfield Publishing, Toronto.

[35] Zaremba, S.B. and Fluck, S.E. (1995) Gender and Patterns of Communication. *Proceedings of the* 9*th Annual Conference on Undergraduate Teaching of Psychology*, Elenvile, 22-24 March 1995, 163-170.

[36] Johnson, P. (1976) Women and Power: Toward a Theory of Effectiveness. *Journal of Social Issues*, **32**, 99-110. http://dx.doi.org/10.1111/j.1540-4560.1976.tb02599.x

[37] Parsons, J.E., Meece, J.L., Adler, T.F. and Kaczala, C.M. (1982) Sex Differences in Attributions and Learned Helplessness. *Sex Roles*, **8**, 421-432. http://dx.doi.org/10.1007/BF00287281

[38] Pavot, W. and Diener, E. (1993) Review of the Satisfaction with Life Scale. *Psychological Assessment*, **5**, 164-172. http://dx.doi.org/10.1037/1040-3590.5.2.164

[39] Giorgi, G. and Majer, V. (2010) WOMI. Work and Organisational Motivation Inventory. Giunti O.S., Firenze.

[40] Hemphill Marston, S. (2010) Why Do They Teach? A Comparison of Elementary, High School and College Teachers. *Education*, **131**, 437-454.

[41] Caprara, G.V., Barbaranelli, C., Borgogni, L., Petitta, L. and Rubinacci, A. (2003) Teachers', School Staff's and Parents' Efficacy Beliefs as Determinants of Attitude toward School. *European Journal of Psychology of Education*, **18**, 15-31. http://dx.doi.org/10.1007/BF03173601

[42] Bembenutty, H. (2007) Pre-Service Teachers' Motivational Beliefs and Self Regulation of Learning. *Annual Meeting of the American Educational Research Association*, Chicago, 9-13 April 2007.

[43] Boekaerts, M. and Cascallar, E. (2006) How Far We Moved toward an Integration of Theory and Practice in Self-Regulation? *Educational Psychology Review*, **18**, 199-210. http://dx.doi.org/10.1007/s10648-006-9013-4

[44] Boekaerts, M., de Koning, E. and Vedder, P. (2006) Goal-Directed Behavior and Contextual Factors in the Classroom: An Innovative Approach to the Study of Multiple Goals. *Educational Psychologist*, **41**, 33-51. http://dx.doi.org/10.1207/s15326985ep4101_5

[45] Dinham, S. and Scott, C. (1998) A Three Domain Model of Teacher and School Executive Career Satisfaction. *Journal of Educational Administration*, **36**, 362-378. http://dx.doi.org/10.1108/09578239810211545

[46] Dinham, S. and Scott, C. (2000) Moving into the Third, Outer Domain of Teacher Satisfaction. *Journal of Educational Administration*, **38**, 379-396. http://dx.doi.org/10.1108/09578230010373633

[47] Scott, C., Cox, S. and Dinham, S. (1999) The Occupational Motivation, Satisfaction and Health of English School

Teachers. *Educational Psychology*, **19**, 287-308. http://dx.doi.org/10.1080/0144341990190304

[48] Scott, C., Stone, B. and Dinham, S. (2001) "I Love Teaching but…" International Patterns of Teacher Discontent. *Education Policy Analysis Archives*, **9**, 1-7.

[49] Moore, W.P. and Esselman, M.E. (1992) Teacher Efficacy, Empowerment, and a Focused Instructional Climate: Does student Achievement Benefit? *Annual Meeting of the American Educational Research Association*, San Francisco, 20-24 April 1992.

[50] Moore, W.P. and Esselman, M.E. (1994) Exploring the Context of Teacher Efficacy: The Role of Achievement and Climate. *Annual Meeting of the American Educational Research Association*, New Orleans, 4-8 April 1994.

[51] Muijs, R.D. and Rejnolds, D. (2001) Teachers' Beliefs and Behaviors: What Really Matters? *Journal of Classroom Interaction*, **37**, 3-15.

[52] Ross, J.A. (1992) Teacher Efficacy and the Effect of Coaching on Student Achievement. *Canadian Journal of Education*, **17**, 51-65. http://dx.doi.org/10.2307/1495395

[53] Ross, J.A. (1998) The Antecedents and Consequences of Teacher Efficacy. In: Brophy, J., Ed., *Advances in Research on Teaching*, JAI Press, Greenwich, 49-74.

[54] Caprara, G.V., Barbaranelli, C., Steca, P. and Malone, P.S. (2006) Teachers' Self-Efficacy Beliefs as Determinants of Job Satisfaction and Students' Academic Achievement: A Study at the School Level. *Journal of School Psychology*, **44**, 473-490. http://dx.doi.org/10.1016/j.jsp.2006.09.001

[55] Cousins, J. and Walker, C. (1995) Personal Teacher Efficacy as a Predictor of Teachers' Attitudes toward Applied Educational Research. *Annual Meeting of the Canadian Association for the Study of Educational Administration*, Montreal.

[56] Jordan, A., Krcaali-Iftar, G. and Diamond, C. (1993) Who Has a Problem, the Student or the Teacher? Differences in Teachers' Beliefs about Their Work with At-Risk and Integrated Exceptional Students. *International Journal of Disability*, *Development and Education*, **40**, 45-62. http://dx.doi.org/10.1080/0156655930400104

[57] Chacon, C.T. (2005) Teachers' Perceived Efficacy among English as a Foreign Language Teachers in Middle Schools in Venezuela. *Teaching and Teacher Education*, **21**, 257-272. http://dx.doi.org/10.1016/j.tate.2005.01.001

[58] Korevaar, G. (1990) Secondary School Teachers' Courses of Action in Relation to Experience and Sense of Self-Efficacy. *Annual Meeting of the American Educational Research Association*, Boston, 16-20 April 1990.

[59] Podell, D. and Soodak, L. (1993) Teacher Efficacy and Bias in Special Education Referrals. *Journal of Educational Research*, **86**, 247-253. http://dx.doi.org/10.1080/00220671.1993.9941836

[60] Usher, A. (2012) What Can Schools Do to Motivate Students? Unpublished Paper.

[61] Caprara, G.V., Barbaranelli, C., Borgogni, L. and Steca, P. (2003) Efficacy Beliefs as Determinants of Teachers' Job Satisfaction. *Journal of Educational Psychology*, **95**, 821-832. http://dx.doi.org/10.1037/0022-0663.95.4.821

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