



The mediating role of emotions in the relation between beliefs and teachers' job satisfaction

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ABSTRACT

This study investigates the patterns of relations between beliefs, emotions, and job satisfaction in 249 Italian in-service teachers. Participants were assessed on their growth and fixed mindsets, self-efficacy beliefs, emotions associated with various components of their professional engagement and job satisfaction. Mediation analyses shed light on the mediating role of teaching and role emotions in the relation between beliefs and job satisfaction. Specifically, teachers' high self-efficacy beliefs positively impact on job satisfaction if negative teaching and role emotions are contained at low levels.

1. Introduction

Teachers are set at the highest level of work-related stress practitioners across European countries (European Trade Union Committee for Education Survey on Teachers' Work-related Stress, 2007). It has also been documented that job satisfaction is significantly related to teachers' job stress (Skaalvik & Skaalvik, 2017): low levels of job satisfaction concur to depression and burnout (Maslach & Jackson, 1981), to the desire to leave the workplace (Fisher, 2011), and decrease teaching quality (Keller et al., 2014; Kunter et al., 2008). High levels of job satisfaction occur when teachers feel themselves involved in a significant working experience (Demirtas, 2010) with a satisfactory matching between work expectations and work reality (Veldman et al., 2016), as well as cognitive and emotional resources to be devoted to this (Aldrup et al., 2017; Feuerhahn et al., 2013). Referring to the Job Demands-Resources model (JD-R model; Demerouti et al., 2001), several physical, social, or organisational job demands (e.g., time pressure or work overload, discipline problems, and low student motivation) may stress teachers in the school context. Teachers' mindsets, self-efficacy beliefs, and emotions are important potential psychological job resources to contrast job demands and promote professional engagement.

1.1. Teachers' beliefs, emotions, and job satisfaction: which relations?

1.1.1. Teachers' beliefs - fixed or growth mindsets

The mindset approach (Dweck, 2000) affirms that beliefs are crucial

to evaluate personal experience and construct meanings upon life events (Bandura et al., 2001; Fives & Buehl, 2012), especially in challenging circumstances (see review by Burnette et al., 2020). Teachers with a fixed mindset ('entity theory') think about intellectual ability or self-image as an innate, uncontrollable, and unchangeable human trait; in contrast, teachers with a growth mindset ('incremental theory') think about intellectual ability or personality as an increasable, controllable, and changeable trait (Dweck & Yeager, 2019). Research has documented the impact of teacher's Fixed or Growth Mindsets on students, in which the former fosters internal motivation in students from France (Leroy et al., 2007) and from Finland (Rissanen et al., 2018), while the latter favours performance goals as emerged in students and teachers from French junior high schools (Trouilloud et al., 2006). Less studied are the relations between fixed or growth mindsets and job satisfaction in teachers, although one might think that opinions about whether or not intelligence can be transformed should constitute an important filter through which to perceive the work of educating and instructing.

1.1.2. Self-efficacy beliefs

Self-efficacy is associated with job satisfaction in primary and secondary teachers from China (Huang et al., 2021; Pas & Bradshaw, 2014) and self-esteem (Hong et al., 1999). Teachers who feel more confident in their self-concept, a construct close to self-efficacy (Bong & Skaalvik, 2003), are much less exposed to stress and burnout (Villa & Calvete, 2001). High levels of confidence in one's own abilities are associated with feeling capable of guiding one's students and adopting successful

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teaching practices in pre-service science teachers (Czerniak & Schriver, 1994) and primary school teachers (Ginns & Watters, 1996), as well as with feeling high job satisfaction in full-time, employed teachers (Duffy & Lent, 2009). The influence of teachers' self-efficacy beliefs has been confirmed across countries. In the Italian context, teachers' self-efficacy beliefs and collective-efficacy beliefs are, respectively, the distal and proximal determinants of their job satisfaction (Caprara et al., 2003); teachers from a teacher training centre in Iran with high self-efficacy are protected from burnout (Rad & Nasir, 2010). Researchers have focused less on the relation between self-efficacy beliefs linked to the specific domains of intellectual ability and job satisfaction. Instead, it would be interesting to verify whether growth self-efficacy beliefs, meaning that teachers believe that they can face a problematic situation and mobilise their intellectual ability or self-image aspects in an effort to pursue a specific goal (Bandura, 1997; Chen & Tutwiler, 2017; Ouweneel et al., 2013), positively affects teachers' job satisfaction.

1.1.3. Emotions

Teaching practice is imbued with a wide spectrum of coexisting, conflicting emotions. Affective experiences reverberate on the perceived controllability and the value of outcomes and actions (Frenzel et al., 2018; see also Vettori et al., 2021). Theories of achievement emotions (see, Pekrun's (2006) control-value theory; Pekrun & Perry, 2014) link emotions to a mastery-approach. Low levels of positive emotions (e.g., enjoyment) are associated with high levels of stress in novice teachers from one German federal state (Aldrup et al., 2017) and in-service teachers working in state schools in Turkey (Atmaca et al., 2020). In contrast, negative emotions in teaching (e.g., anxiety) compromised job satisfaction in teachers from the German primary and secondary state school system (Frenzel et al., 2016). In Italian junior high schools, it has been found that when teachers can maximise their perceived positive emotions and minimise negative emotions, they feel more satisfied (Caprara & Steca, 2006). The importance of emotions was highlighted by Buonomo et al. (2020) showing that teachers' collective beliefs and the regulation of positive and negative emotions towards their professional role (i.e., hedonic balance) predicted job satisfaction. Promising results have also emerged from research that has investigated the association between emotions and the various activities in which the teacher's work is articulated: Teachers might experience positive emotions taking care of students' growth (Sutton & Wheatley, 2003) or negative emotions for a role strongly imbued by responsibility in the relationships with colleagues and management or communication with families (Cross & Hong, 2012).

While it is acknowledged that positive and negative emotions are universally conceived as desirable and undesirable, an important warning not to generalise this association comes from scholars who assume the existence of cultural differences when considering the extent to which emotional experiences affect teachers' quality of life (Kuppens et al., 2008). A promising way to investigate the psychological mechanisms of teachers' job satisfaction is to test mediational models. Findings from teachers working in primary and secondary schools in Australia showed that teachers' beliefs about self-efficacy were able to predict job satisfaction via engagement, while teachers' self-efficacy did not directly impact job satisfaction (Granziera & Perera, 2019). In line with this result, Moè, Pazzaglia, and Friso (2010) revealed the mediating role of both positive affect and self-efficacy beliefs in the relation between teaching strategies and job satisfaction in teachers from Italian primary, middle, and high schools.

1.2. Rationale

The review of research conducted shows that the influence of teachers' emotions is scarcely investigated in relation to three aspects. First, most studies on teachers' job satisfaction have focused on positive teaching emotions, leaving aside negative emotions, as well as the exploration of emotions related to the role of teacher, as potentially

linked with their job satisfaction. Second, there is the need to clarify the psychological mechanisms underlying teachers' job satisfaction as an interrelation between teachers' beliefs and emotions. Much of the research into job satisfaction has tested the direct contribution of mindsets, self-efficacy beliefs, and emotions on job satisfaction. Only a few studies have investigated the intertwining of cognitive (what people think about themselves) and psychological affective functioning (what people feel in the context of working interactions) in teachers through mediational models and none, to our knowledge, has been conducted in the Italian school context, which has structural and organisational specificities. In Italy there is a prevalent public-school system regulated by national guidelines with state-funded teachers. Italian teachers accede to teaching after successfully concluding a national, regulated curriculum of study. Their teaching experience implies pedagogic and didactic management in a context of disability integration (Decree laws 517/77 and 170/12). In the Italian educational system, there is a persistence in the same school level and grade (e.g., childhood, primary school) throughout the career. And, last but not least, a high incidence of burnout is registered for Italian teachers (European Trade Union Committee for Education Survey on Teachers' Work-related Stress, 2007).

1.3. Aim and hypothesis

The purpose of this study is to investigate whether teachers' job satisfaction is related with their beliefs, positive or negative teaching emotions and emotions related to the role of teachers. We might expect that the relation between teachers' beliefs and job satisfaction is mediated by emotions. Specifically, we would expect that teachers' high self-efficacy beliefs are associated with high job satisfaction by influencing the hedonic balance between positive and negative emotions that mediate in the relation between teachers' beliefs and job satisfaction. We conduct this analysis considering both teaching and role emotions to verify the existence of a differential impact of emotions experienced in different circumstances of teachers' occupational life on job satisfaction.

2. Method

2.1. Participants

The initial sample of this study consisted of 273 teachers. About 10% of them did not complete the questionnaires and were excluded from the analysis. The actual total number of participants was 249 in-service teachers (Females = 88.8%), aged 25–64 ($M = 45.16$; $SD = 9.30$) years and with 1–40 years of experience ($M = 16.85$; $SD = 10.11$). Table 1 shows the main characteristics of the sample. The sample reflects the actual teachers' gender distribution in schools. Based on the Italian educational system, all teachers have obtained a specialist

Table 1
Sample characteristics.

		%	M-age
Gender	Females	88.8	45.04 ± 9.24
	Males	11.2	46.11 ± 9.83
Master's degree graduate	Education	60.7	
	Scientific	19.6	
	Social science	4.2	
	Technological	5.4	
	Biomedical	10.1	
Grade levels of teaching	Pre-school	15.9	41.77 ± 8.89
	Primary school	25.3	43.08 ± 10.48
	Lower-secondary school	36.1	47.38 ± 8.31
	Upper-secondary school	21.7	45.72 ± 8.52
	Missing	1	
Years of teaching experience	1–10	33.3	
	11–20	32.9	
	21–30	22.9	
	31–40	10.8	

master's degree in a specific disciplinary section (e.g., education, social sciences), as well as the required professional development credits. The subject of teaching was distributed over all subjects taught in Italian schools (i.e., scientific, foreign languages, and technical).

The Italian education system from kindergarten to university is made up of about 90% state-funded schools. In Italy, schooling is divided into four educational cycles, as follows: Pre-school – a three-year cycle from three to six years of age; primary school – a five-year cycle from 6 to 11; lower-secondary school – a three-year cycle from 11 to 14; upper-secondary school – a three, four or five-year cycle from 14 to 17, 18 or 19. School timetables vary considerably according to the school grade. To become a teacher, it is necessary to have obtained a master's degree with a five-year programme and a subsequent specialisation course in the disciplinary field of teaching for teachers from primary school to upper-secondary school. During their teaching career, teachers are required to attend postgraduate refresher courses.

2.2. Procedures and measures

Teachers voluntarily agreed to this research proposed during a postgraduate refresher course in schools. Data were collected in the scholastic year 2015/2016. The research was carried out in the framework of a partnership between the University of Florence, Italy and a network of schools of all educational levels and grades referring to the same metropolitan area of Florence. The topics covered in this research were of interest for the teachers' professional course. Teachers who had asked through a census what they should be trained in for the mandatory annual teachers' professional courses choose the topics covered by this research. The professional course took place on the schools' premises and consisted of three sessions during which questionnaires were completed by teachers (see, participants' distribution in Table 1). Teachers' adherence was voluntary and reached about 80% of the total number of teachers in the school district where the research was carried out. The research was approved by the Ethics Committee of the University of Florence, Italy.

2.2.1. Data collection tools

Researchers collected the data face-to-face in a school group session lasting about 1 h when teachers individually filled in a printed form of self-report questionnaires. The self-report questionnaires used in this study were the:

- Implicit Theory Orientation Questionnaire (Dweck, 2000)
- Questionnaire on teaching emotions (Moè, Pazzaglia, & Friso, 2010)
- Questionnaire on job satisfaction (Moè, Pazzaglia, & Friso, 2010).

The following is a detailed description of the tools used.

2.2.1.1. Teachers' beliefs

2.2.1.1.1. Fixed and growth mindset. The two scales of the self-report "Implicit Theory Orientation Questionnaire" examining growth or fixed mindsets developed by Dweck (2000) were administered.

The first scale refers to intellectual ability. It is composed of eight items with scores on a six-point Likert scale from "strongly against" to "strongly agree" and represents a growth mindset. For example, a high score on the statement "*Your intelligence is something that you can't change very much*" referred to a fixed mindset; whereas a high score on the statement "*You can always substantially change how intelligent you are*" referred to a growth mindset.

The second scale refers to personality. It is composed of six items with scores on a six-point Likert scale "strongly disagree" to "strongly agree". For example, a high score on the statement "*Everyone's personality is a part of themselves that can be changed very little*" referred to a fixed mindset; whereas, a high score on the statement "*People can always change their personality*" referred to a growth mindset. In the appropriate

cases, items were reverse-coded. Participants were labelled as fixed or as growth mindset by splitting scores at the middle of the spectrum (i.e., 3.5) or along a measure of central tendency (e.g., median). The psychometric properties of the two scales showed adequate internal consistency ($\alpha = 0.82$ to 0.97) and test-retest reliability indexes at two weeks ($\alpha = 0.80$ to 0.82) (Dweck et al., 1995). For our sample, Cronbach's alpha values were 0.82 to 0.94.

2.2.1.1.2. Self-efficacy beliefs. The two scales of the self-report "Implicit Theory Orientation Questionnaire" examining self-efficacy beliefs developed by Dweck (2000) were administered.

The first scale refers to self-efficacy beliefs about one's own intelligence. It is composed of six items with scores on a six-point Likert scale "strongly disagree" to "strongly agree". Item examples were the following: "*I don't have enough confidence in my intellectual capacity*" and "*I have enough confidence in my intellectual capacity*".

The second scale refers to self-efficacy beliefs of self-image. It is composed of six items with scores on a six-point Likert scale. Item examples were the following: "*I'm not sure people like my personality*" and "*I'm pretty sure people like my personality*". Participants were labelled as low or high confidence by splitting scores at the middle of the spectrum (i.e., 3.5) or along a measure of central tendency (e.g., median). The psychometric properties of the two scales showed adequate internal consistency ($\alpha = 0.82$ to 0.97) and test-retest reliability indexes at two weeks ($\alpha = 0.80$ to 0.82) (Dweck et al., 1995). For our sample, Cronbach's alpha values were 0.82 to 0.96.

2.2.1.2. Teachers' emotions. The "Questionnaire on teaching emotions" (see, Moè, Pazzaglia, & Friso, 2010) was used to measure positive and negative emotions experienced by teachers a) during teaching, and b) when thinking of themselves in the role of teachers. Teachers' positive emotions ("Enjoyment" and "Satisfaction") and negative emotions ("Anger" and "Frustration") were measured with 30 items, measured on a five-point Likert scale from "almost never" to "nearly always". Cronbach's alpha resulted adequately with respect to positive emotions (teaching: $\alpha = 0.89$; role: $\alpha = 0.92$) and negative emotions (teaching: $\alpha = 0.89$; role: $\alpha = 0.91$) (Moè, Pazzaglia, & Ronconi, 2010). For our sample, Cronbach's alpha values were 0.93 (teaching - positive emotions) and 0.90 (role - positive emotions) and 0.87 (teaching - negative emotions) and 0.06 (role - negative emotions).

2.2.1.3. Teachers' job satisfaction. The "Questionnaire on job satisfaction" reported in the battery of Moè, Pazzaglia, and Friso (2010) was used to measure the levels of teachers' job satisfaction. The questionnaire is composed of five items (e.g., "In many ways my current work is close to my ideal work") with a seven-point Likert scale from "strongly disagree" to "strongly agree" and it produces a unique score. Cronbach's alpha is good ($\alpha = 0.84$) (Moè, Pazzaglia, & Ronconi, 2010). For our sample, Cronbach's alpha value was 0.82.

2.3. Data analysis

Four steps were conducted. In the first step, descriptive statistics were carried out to check the normality of the distribution. In a second step, bivariate correlations were calculated between variables with Bravais-Pearson linear correlations. In a third step, preliminarily to moderated mediations, a model of linear multiple regression was tested to verify whether the hypothesised independent variables (regressors; i.e., teacher's beliefs and emotions) predict the dependent variable (i.e., job satisfaction). The multiple regression analysis allows us to determine both the overall fit (variance explained) of the model, both the relative contribution of each of the hypothesised predictors to the total variance explained. Specifically, in the regression model the following six independent variables (regressors) were inserted: "(Role) Positive emotions", "(Teaching) Positive emotions", "(Role) Negative emotions", "(Teaching) Negative emotions", "Self-efficacy beliefs", and "Self-image beliefs". Finally,

in the fourth step, we used conditional process modelling to test for moderated mediation as outlined by Hayes and Scharkow (2013) using the PROCESS macro. The fourth step allows us to further explore the relationship between teacher beliefs (self-efficacy beliefs and self-image beliefs) and job satisfaction. Specifically, we have conducted conditional mediation to see in separate block whether teacher (positive and negative) emotions mediated the relationship between teacher belief and job satisfaction, using as moderators the “Years of Teaching Experience” and the “Grade Levels of Teaching - primary, middle, and secondary school” (this model corresponds to Model 16 in Hayes & Scharkow, 2013). Bootstrap estimates were based on 5000 bootstrap samples.

Statistically significant correlations between the potential mediator variable and both the predictor variable and the outcome variable are a necessary precondition for mediation.

3. Results

The descriptive statistics are reported in Table 2 and the results of correlation analyses in Table 3.

Regarding the first aim of simultaneously verify the predictive effect of multiple independent variables (i.e., “(Role) Positive emotions”, “(Teaching) Positive emotions”, “(Role) Negative emotions”, “(Teaching) Negative emotions”, “Self-efficacy beliefs”, and “Self-image beliefs”) on the dependent variable (i.e., “Job satisfaction”), the preliminary linear multiple regression results show that teachers' beliefs did not exert a direct predictive impact on job satisfaction (Table 4). Meanwhile, teachers' emotions exerted a direct predictive role on their job satisfaction. Results show that the model explains the 35.9% of variance explained. Specifically, the dimensions of “(Role) positive emotions” [$t(239) = 2.85, p < .01, \eta^2 = 0.03$] and “(Teaching) positive emotions” [$t(239) = 3.08, p < .01, \eta^2 = 0.04$] emerged as significant positive predictors of job satisfaction, whereas “(Role) negative emotions” [$t(239) = -2.00, p < .05, \eta^2 = 0.02$] and “(teaching) negative emotions” [$t(239) = -2.37, p < .05, \eta^2 = 0.02$] showed a negative predictive role on job satisfaction.

Then, to verify whether the relation between teachers' growth or fixed mindset and job satisfaction is mediated by emotions, a conditional mediation model was tested. Preliminarily, in line with Baron and Kenny's (1986) criteria and the theorisation of MacKinnon et al. (2002), it was checked that the hypothesised mediator is correlated with both independent (X) and dependent (Y) variables. As observed in Table 3, our hypothesised mediators (positive and negative emotions) were correlated with both independent (X) and dependent (Y) variables, so the criterion was respected.

The results of the conditional mediation analysis showed that three significant models were found (see Fig. 1a, b and c).

The first model showed that the relationship between self-efficacy beliefs and job satisfaction is totally mediated by teaching negative emotions ($R^2 = 0.15, p < .001$) and the effect of the tested moderator variables (Teaching negative emotions * Years of Teaching Experience: $\beta = 0.01, p = .99$; Teaching negative emotions * Grade Levels of Teaching = $\beta = 0.04, p = .74$) was not significant (Fig. 1a).

The second model showed that the relationship between self-image

beliefs and job satisfaction is totally mediated by teaching negative emotions ($R^2 = 0.16, p < .001$), and the effect of the tested moderator variables (Teaching negative emotions * Years of Teaching Experience: $\beta = 0.02, p = .90$; Teaching negative emotions * Grade Levels of Teaching = $\beta = 0.05, p = .69$) was not significant (Fig. 1b).

The last model showed that the relationship between self-image beliefs and job satisfaction is totally mediated by role negative emotions ($R^2 = 0.15, p < .001$), and the effect of the tested moderator variables (Role negative emotions * Years of Teaching Experience: $\beta = 0.20, p = .08$; Role negative emotions * Grade Levels of Teaching = $\beta = 0.14, p = .20$) was not significant (Fig. 1c).

4. Discussion

Our findings shed light on the interplay of relations between teachers' mindsets, self-efficacy beliefs, emotions, and job satisfaction, which is an understudied issue in the specific Italian educational context where the levels of teachers' stress and dropout are still an urgent concern.

The preliminary results aimed at investigating the existence of direct effects between mindsets, self-efficacy beliefs, emotions on teachers' job satisfaction offered quite an inexhaustive framework, questioning the direct role of beliefs in influencing teachers' job satisfaction. In fact, the preliminary results showed that teachers' beliefs (i.e., growth or fixed mindsets and self-efficacy beliefs) were not directly associated with teachers' job satisfaction. This result was quite surprising given the acknowledged association of growth mindsets and self-efficacy beliefs with the perception of controllability, internal motivation (Leroy et al., 2007; Rissanen et al., 2018), and the ability to cope with challenging situations (Burnette et al., 2020). This result questions the reasonableness of relying solely on the factor of teachers' beliefs when trying to explain their job satisfaction and supports considering more complex interplays between beliefs and affective factors.

Further preliminary results showed that teaching and role positive emotions were associated with high levels of job satisfaction and that teaching negative emotions were associated with a decrease in teachers' job satisfaction. Our results add knowledge about the relation between positive and negative emotions and job satisfaction by considering both teaching and role emotions. The results found for Italian teachers support previous results from other educational contexts showing the significant association between positive affective experience and teachers' job satisfaction (Aldrup et al., 2017; Atmaca et al., 2020).

Regarding the purpose of this study, the results of the mediational model tested support our view that teachers' job satisfaction is better explained by an interplay of relations between teachers' beliefs and emotions. On the one hand, the mediational model confirmed that the teachers' fixed or growth mindsets did not concur with job satisfaction, as already emerged in the preliminary results. A critical point was the reliability of evaluating teachers' growth or fixed mindsets on the basis of the mindset scale that provide abstract and ideal scenarios which might have led teachers to provide a desirable image of their growth mindsets. Future studies could consider revising the construct and its measurement to increase the exploration of teachers' mindsets in a more complex way by including the reality of daily teaching occupational life

Table 2
Descriptive statistics (N = 246).

Constructs	Type of variable	Variable	Min	Max	M	SD	Skewness	Kurtosis
Job satisfaction	Dependent	Job satisfaction	1.60	7	4.88	1.08	-0.48	-0.21
Emotions	Mediator	(Role) Positive emotions	1.08	4.92	3.42	0.73	-0.52	0.40
		(Teaching) Positive emotions	1.38	5	3.78	0.60	-0.40	0.58
		(Role) Negative emotions	1	4.12	2.00	0.57	0.61	0.44
		(Teaching) Negative emotions	1	3.53	1.76	0.49	0.79	0.38
Beliefs	Independent	Growth or fixed mindset about one's own intelligence	1.88	5.88	4.16	0.71	-0.24	0.02
		Growth or fixed mindset of self-image	1.13	6.00	4.06	0.85	-0.47	0.52
		Self-efficacy beliefs	0	6	3.36	1.13	0.33	0.73
		Self-image beliefs	0	6	3.04	1.09	0.33	0.76

Table 3
Correlational matrix.

Constructs	Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
Job satisfaction	1. Job satisfaction	–								
Emotions	2. (Role) Positive emotions	0.46***	–							
	3. (Teaching) Positive emotions	0.47***	0.63***	–						
	4. (Role) Negative emotions	–0.32***	–0.34***	–0.05	–					
Beliefs	5. (Teaching) Negative emotions	–0.34***	–0.08	–0.30***	0.56***	–				
	6. Growth or fixed mindset about one's own intelligence	0.05	0.03	0.05	0.03	–0.03	–			
	7. Growth or fixed mindset of self-image	0.01	0.02	0.03	0.07	–0.01	0.86***	–		
	8. Self-efficacy beliefs	0.01	–0.04	–0.02	–0.09	–0.19**	0.04	–0.01	–	
	9. Self-image beliefs	–0.03	0.08	0.01	–0.14*	–0.15*	0.16*	0.19**	0.19**	–

Note. N = 246.

* $p < .05$.** $p < .01$.*** $p < .001$.**Table 4**
Summary of linear multiple regression results.

Predictors	Estimate	SE	95% CI		p value	η^2p
			LL	UL		
Intercept	3.25	0.58	2.10	4.41	<0.001	
(Role) Positive emotions	0.35	0.12	0.11	0.58	0.005**	0.03
(Teaching) Positive emotions	0.45	0.15	0.16	0.74	0.002**	0.04
(Role) Negative emotions	–0.29	0.15	–0.59	–0.01	0.047*	0.02
(Teaching) Negative emotions	–0.40	0.17	–0.71	–0.06	0.019*	0.02
Self-efficacy beliefs	–0.02	0.05	–0.07	0.24	0.715	0.00
Self-image beliefs	–0.09	0.05	–0.19	0.01	0.099	0.01

Notes. Dependent variable: Job satisfaction.

CI = confidence interval; LL = lower limit; UL = upper limit.

N = 246.

* $p < .05$.** $p < .01$.

(e.g., when they prepare lessons or testing sessions). On the other hand, the results of the mediational model found that teachers' self-efficacy beliefs positively associate with job satisfaction if (teaching and role) negative emotions are maintained at low levels. The teachers characteristics ("Grade Levels of Teaching - preschool, primary, middle, and secondary school" and "Years of Teaching Experience"), considered as mediators, didn't impact on the mediational model. This principal mediational model suggests that when a teacher has high levels of self-efficacy beliefs and he/she is able to understand, actively engage and regulate negative emotions related to teaching practices (e.g., teacher-student daily interaction, students' behaviours and outcomes) or to the role of teachers (teacher-students' parents interactions, relationships with colleagues) his/her job satisfaction is powerfully enhanced. Underlying this, we could hypothesise that the increase in the perception of controllability in managing challenging situations fosters their self-regulation ability and willingness to overcome difficulties. Our result is similar to previous findings in the literature. For example, [Buonomo et al. \(2020\)](#) showed a relation between teachers' collective efficacy, hedonic balance related to the professional role, and job satisfaction. Other results ([Sutton, 2004](#)) supported the importance of containment of negative emotions, rather than the experience of positive emotions, in promoting teachers' well-being. The hypothesis that emotions of a positive or negative nature do not carry the same weight is confirmed and it is highlighted that it is mainly emotions during teaching that weigh on job satisfaction, i.e., those that pass through relationships with teachers.

The results of this study revealed teachers' capacity to actively regulate and balance their negative teaching and role emotions as a critical point for their occupational well-being. Our results have also shown that high self-efficacy beliefs are an important source to interpret

negative emotions and cope with them and promote job satisfaction.

The need to adopt a multi-componential perspective in examining the weight of emotional aspects on the teacher clearly emerged in the literature ([Sutton, 2004](#); [Vettori et al., 2020](#)). To better grasp the multiplicity of components of the teaching profession we have therefore introduced, alongside the usual distinction between positive and negative emotions, a specification of the professional areas in which these emotions are perceived. Participants were then asked to situate their emotional experiences at times when they were carrying out their activities related to teaching, and at times when they were more involved in other activities inherent to the role, such as relationships with colleagues and management of or communication with families. This made it possible to identify how, on the one hand, these circumstances are united by a similar number of positive emotions, while on the other hand their association with negative emotions is different: it is above all to the control of emotional discomfort during teaching, in the specific and direct relationship with students, that teachers attribute their well-being and satisfaction. Our results show that it is not so much positive emotions, but rather negative emotions, and in particular their containment within the emotional flow, that are linked to teachers' well-being. In line with [Lindebaum and Jordan \(2012\)](#) who noted a simple tendency in research to link positive emotions with positive outcomes and negative emotions with negative outcomes and suggested to researchers to develop lines of enquiry that look beyond simple symmetrical associations. Our findings, therefore, agree with the literature ([Kuppens et al., 2008](#)), which, while recognising that positive and negative emotions might be universally viewed as desirable and undesirable, respectively, shows that there are cultural differences in how relevant such emotional experiences are to teachers' quality of life.

4.1. Implications for psychological health

The results of this study confirm the importance of fostering teachers' emotional regulation in training programmes. The training programmes' contents could focus on how teachers experience stressful and difficult emotions and how they habitually react to them; how to manage emotionally contrastive feelings and uncontrollability emotional circumstances (e.g., anxiety, and fear) in a more effective way by increasing awareness of alternative possibilities (e.g., problem solving, self-care, seeking help, a work-life balance); and how to promote empathy and compassion through caring and listening practices (see the review by [Hwang et al., 2017](#)). The content of the training programme could also activate or sustain teachers' personal resources (e.g., self-efficacy), and increase awareness of contextual resources (e.g., trusting relationships with leaders, fellow teachers and students) ([Mansfield et al., 2016](#)). The improvement of teachers' experience wellbeing, emotional regulation and hedonic balance will have positive effects on job satisfaction and student-teacher relationships (e.g., [Veldman et al., 2016](#)).

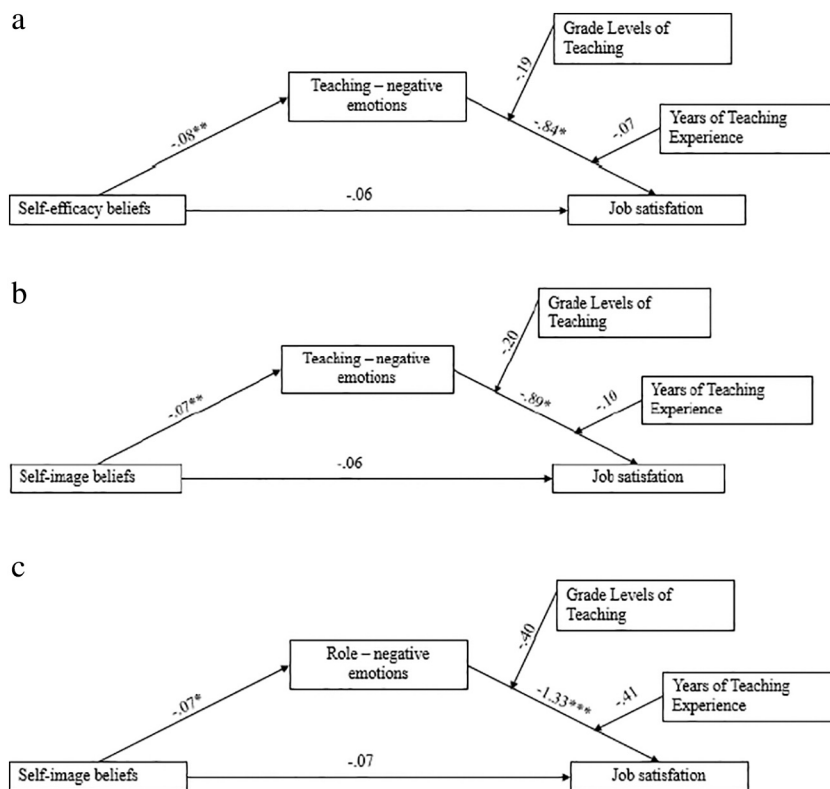


Fig. 1. a. First conditional mediation model: Self efficacy beliefs (independent variable), Teaching negative emotions (mediator), Job satisfaction (dependent variable) and Grade Levels of Teaching and Years of Teaching Experience (moderators).

Note. $*p < .05$, $**p < .01$, $N = 246$.

b. First conditional mediation model: Self-image beliefs (independent variable), Teaching negative emotions (mediator), Job satisfaction (dependent variable) and Grade Levels of Teaching and Years of Teaching Experience (moderators).

Note. $*p < .05$, $**p < .01$, $N = 246$.

c. First conditional mediation model: Self-image beliefs (independent variable), Role negative emotions (mediator), Job satisfaction (dependent variable) and Grade Levels of Teaching and Years of Teaching Experience (moderators).

Note. $*p < .05$, $***p < .001$, $N = 246$.

4.2. Limitations and future research

This study was conducted in the Italian educational system; thus, results are context specific. To improve the generalisability of results, future research could investigate the interplay between teachers' beliefs, emotions, and job satisfaction across different educational and socio-cultural contexts. Furthermore, following an ecological perspective, it would be important to examine whether teachers' beliefs, emotions, and job satisfaction are influenced by participants' background variables as moderators, such as the teachers' number of years of occupational experience, school grades, the perceptions of opportunity for achievement and personal advancement, management policies, and the characteristics of professional learning communities. A further caution refers to the discrepancy found in self-report between beliefs and teaching behaviour actually adopted. Future studies could consider the possibility of triangulating information derived from different instruments and methodologies.

5. Conclusion

In conclusion, this study aimed to gain a better understanding of the relation between teachers' beliefs, emotions, and job satisfaction. Teachers with higher self-efficacy beliefs had higher levels of job satisfaction when negative teaching and role emotions are contained at low levels. These results underline the importance of planning adequate interventions to sustain teachers' self-efficacy beliefs, emotional regulation of negative emotions and improve their job satisfaction. Finally, studies that investigate the benefit of supporting teachers' in affective containment of emotional instability, stress, and anxiety related to teaching and to the role of teacher could offer a significant contribution to this field of research of teachers' psychological well-being.

Declaration of competing interest

The authors declare that the research was conducted in the absence

of any commercial or financial relationships that could be construed as a potential conflict of interest.

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