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Measuring the influence of stress and burnout in teacher-child relationship

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Most research finds socio-psychological aspects and the organism-environment relationship crucial in the onset of stress-related phenomena; equally important is the subject's evaluation of stimuli. The *Burnout* syndrome is defined as a psychological state perceived as emotive breakdown and sense of depersonalization, featuring decreased effectiveness at work and a lower evaluation of one's performance. At school, the most significant widespread stressors are issues in managing student behavior. However, in the literature few works treat stress and burnout as a specific function of the teacher-pupil relationship. This research will highlight the significant correlations existing between burnout, self-efficacy, students' academic performance and the quality of pupil-teacher relationships. 37 primary-school teachers in north-west Italy were involved (age range: 27-57 yrs; *M*=44.76 yrs; *SD*=8.38 yrs). Tools used were a specially designed socio-personal questionnaire, the *Maslach Burnout Inventory* (M.B.I.) and the *Classroom and School Context Teacher Self-Efficacy Scale* (CSC-TSES), while teachers' perception of the relationship with their pupils was investigated with STRS (Italian adaptation). Preliminary analysis reveals mutual influence between teachers' self-efficacy levels and degree of burnout; Conflict is the only dimension correlating significantly with burnout levels and self-efficacy in class management ability.
Keywords: Teacher-child interaction, teacher burn out, self-efficacy, teacher effectiveness.

La medición de la influencia del estrés y del burnout en la relación profesor-alumno. Las teorías más extendidas sobre el fenómeno del estrés han considerado, como factores principales, la relación entre el organismo y el entorno, los aspectos sociales y psicológicos y la evaluación personal hecha por parte del sujeto con respecto a los estímulos estresantes. En el contexto escolar, los problemas encontrados en la gestión del comportamiento de los estudiantes constituyen el factor de estrés más importante y universal. En la literatura, pocos trabajos se centran en el estudio del estrés y el *burnout* como una función específica de la relación profesor-alumno. El propósito de esta investigación es poner de relieve la existencia de correlaciones entre *burnout*, auto-eficacia, rendimiento académico de los estudiantes y la calidad de la relación profesor-alumno. Estuvieron involucrados 37 profesores de las escuelas primarias en el norte-este de Italia (edad en años: rango=27-57, *M*=44.76, *SD*=8.38). Se ha propuesto una rejilla construida específicamente para la detección de socio-personales, el *Maslach Burnout Inventory* (MBI), la *Classroom and School Context Teacher Self-efficacy Scale* (CSC-TSES) y *Student-Teacher relationship Scale* (STRS). El análisis realizado muestra una mutua influencia entre el nivel de autoeficacia de los profesores y el grado de *burnout*; el conflicto es la única dimensión que correlaciona significativamente con el nivel de *burnout* y la auto-eficacia se refiere a la capacidad de gestionar la el contexto de la clase.
Palabras clave: Interacción maestro-alumno, *burnout* profesor, auto-eficacia, efectividad del maestro.

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Teacher stress is a growing problem in many western countries (Clunies-Ross *et al.*, 2008), with effects on the school system as a whole and on the performance and psychophysical well-being of teachers (Kyriacou & Pratt, 1985; Kyriacou & Sutcliffe, 1977; Cerezo *et al.*, 2011; Salguero *et al.*, 2011). Various factors have been indicated as leading to stress in teachers, including the workload, lack of contact with colleagues, situations of conflict linked to their role, inadequate pay, as well as pupil behavior problems and the difficult relationship with parents (Long & Gessaroli, 1989; Stoeber & Rennert, 2008). The two main sources of stress are the pressure of work and the undisciplined behavior of the pupils (Griffith *et al.*, 1999; Cooper & Kelly, 1993; Kyriacou, 1998). As suggested by the theory of self-determination (Deci & Ryan, 1985, 2000), teachers' level of job satisfaction is directly correlated to the degree of autonomy, which constitutes a fundamental psychological need. On this point various studies agree in underlining the general tendency, at the international level, towards a gradual reduction of teachers' autonomy at work (Ballet *et al.*, 2006; Castelló *et al.*, 2010). Moreover, a range of research confirms the correlation existing between management of discipline issues and levels of stress and burn-out amongst teaching staff (Kokkinos, 2007). There is confirmation of the cumulative effect exerted by these factors in leading up to teacher stress and burn-out, and it is also underlined that despite proven scientific evidence of this effect, western governments are slow to introduce adequate policies of intervention.

The onset of stress related to the personal and working situation often facilitates and accompanies the development of the burn-out syndrome: linked to the working context, this has been observed and defined above all in the field of caring and assistance professions, which involve constant prolonged contact with subjects who for various reasons need specific attention (this therefore covers occupations like teaching). It is described as being composed of many factors, marked by emotional exhaustion, depersonalization and a drop in working performance (Farber, 1991; Friedman, 2000; Maslach, 1993). Emotional exhaustion involves the inability to draw on one's ordinary emotional resources in order to cope with the contingent demands of the context. Depersonalization involves the adoption of a cold, cynical, detached attitude towards one's work and the people one comes into contact with; the person therefore tends to reduce his/her emotional involvement in the professional context. Lastly, burn-out involves the subject's negative attitude towards his/her teaching performance, combined with the reduced sense of personal self-efficacy: the perception of not being able to achieve the goals set is accompanied in this case by a profound sense of inadequacy.

The construct of the sense of self-efficacy related to the teaching profession is described with reference to two separate aspects: *Class context efficacy*, and *School context efficacy*. The former identifies *«the sense of professional efficacy related to competence in teaching, educating and motivating the students, as well as in the*

management of interrelations amongst students» (Friedman & Kass, 2002, p. 681), while School context efficacy refers to *«involvement in school activities, participation in organizational and decision-making processes affecting school policy»* (ibid.). In more general terms, the construct of self-efficacy has been linked both to the scholastic success of the pupils (Ashton & Webb, 1986; Ross, 1998), and to their motivation and self-efficacy (Multon, Brown & Lent, 1991). The teachers' sense of self-efficacy also affects the kind of behavior shown by the teachers themselves in increasing their planning and organizational skills (Allinder, 1994), spending more time on teaching subjects where they feel more successful (Riggs, 1995), being inclined to be open to new ideas and methodological innovations (Fuchs *et al.*, 1992; Cousins & Walker, 2000; Chase, Germundsen & Brownstein, 2001), as well as using different methods from the classic lecture format (Ashton & Webb, 1986), and preferring the inductive method and problem solving (Hoy, Hoy & Davis, 2009). The teachers' self-efficacy is also connected to the way of managing the class and of maintaining order, facilitating the adoption of strategies inspired by the search for shared solutions, rather than totally asymmetrical forms of control (Chacon, 2005; Woolfolk *et al.*, 1990). By contrast, teachers with low levels of self-efficacy would tend to suffer higher levels of stress in response to the behavioral problems manifested by the pupils. The class management strategies in this case would be more clearly based on behaviorist-type methods using systems of rewards and punishments (Woolfolk *et al.*, 1990). In this perspective, the teachers' sense of self-efficacy, precisely because it affects the kind of educational attitude adopted, is it authoritative or authoritarian or permissive, would be a factor of protection against the onset of pupil-teacher relations marked by high levels of conflict (Pianta *et al.*, 2005).

The diminished sense of self-efficacy observed in the burn-out syndrome would therefore act on the various aspects involved in the teaching profession: on the one hand, on the cognitive and behavioral components (related to the vast range of "duties", of an institutional and contextual kind, that must be performed by the teacher), and on the other, on the relational factors (with pupils, their families, and colleagues).

The clear correlation observed between the manifestation of the burn-out syndrome and the exposure to emotional overload, experienced in the context of negative personal relations, is the salient characteristic of this phenomenon: adopting a psychosocial perspective in the analysis of this problem can therefore be very useful in understanding the etiology of the syndrome (Van Dierendonck *et al.*, 1994). Teachers' stress levels can in fact affect interaction with pupils (Yoon, 2002): high levels of stress are accompanied by the experience of hostility and anger towards the pupils, leading to the manifestation of negative, conflictual relations and to the maintenance (or increase) of the initial stress perceived. On this point, Pianta (2001a) shows that many teacher crises, which at times generate burn-out and abandonment of the profession, originate in

the situation of a pupil-teacher relationship, especially if it is marked by high levels of conflict. In a systemic perspective, it can be hypothesized that a teacher undergoing burn-out will show less empathy and be more detached from his/her pupils, show intolerance for what happens in class and be less involved in relating to the pupils, resulting in negative effects on their scholastic adaptation (Hamre & Pianta, 2004). In such a situation there may in fact be a defensive withdrawal and a collapse of the caring attitude that should characterize good relations between pupil and teacher (Mortari, 2006; Longobardi *et al*., 2012).

In accordance with these considerations, already strongly supported by various studies in the literature, this research intends to identify the levels of burn-out and of self-efficacy of the teachers involved, highlighting the link between these dimensions, as well as with the levels of closeness, conflict and dependence perceived by the teacher in the relationship with the individual pupils, and with the pupils' level of performance (achievement and effort). The study also intends to investigate the link between the socio-personal characteristics of the sample (age, years of service, etc.), the degree of self-efficacy and the level of burn-out found in the participants.

RESEARCH METHODOLOGY

Participants

The participants in this research are 37 teachers of Years 1, 2 and 3 at seven state primary schools in Piedmont (north-western Italy). The teachers' socio-personal/ professional data are described in table 1.

Instruments

The teachers were asked to complete a specially designed *Form for registration of socio-personal and professional data*, for the collection of information about personal variables (age, marital status, presence and number of children) and professional variables (years of teaching experience, qualifications, type of contract, whether class teacher or support teacher, subjects taught, class size).

For the identification of burn-out levels, the Maslach Burnout Inventory (M.B.I.) designed by Maslach & Jackson (1981), was used, in the version adapted for the Italian educational context by Talamo (1989). With 22 items, the test assesses three dimensions of the burn-out syndrome: *Emotional Exhaustion* (EE), *Depersonalization* (DP), and *Personal Gratification* (PG). The interviewee has to respond by indicating the frequency (from 0, "never" to 6, "daily") with which the situation described is experienced at work.

To assess the perception of the teachers' sense of personal efficacy, the tool used was the Italian version by Di Fabio & Taralla (2003, 2006) of the *Classroom and*

School Context Teacher Self-efficacy Scale (CSC-TSES), originally designed by Friedman & Kass (2002). The scale evaluates two components: *Efficacy in the class context* (theoretical score range: 19-114) and the *Efficacy in the school context* (theoretical score range: 8-48).

Table 1. Descriptive analysis of teachers' socio-personal/professional data

Characteristics (*N*=37)	Alternative	Descriptive analysis	Cumulative %
Sex	Male	2.7%	
	Female	97.3%	
Age	Average in years (SD)	44.76 (8.38)	
	Range in years	27-57	
Marital status (*N*=36)	Married	63.9%	72.2%
	De facto	8.3%	
	Unmarried	19.4%	27.8%
	Separated/divorced	8.3%	
Number of children	None	35.1%	35.1%
	One	29.7%	64.9%
	Two	18.9%	
	Three	16.2%	
Years of teaching	Average in years (SD)	22 (10.89)	
	Range in years	1-39	
Qualification	School certificate specific to teaching	64.9%	70.3%
	Other school-leaving certificate	5.4%	
	Degree in Education or Primary Teaching	18.9%	29.7%
	Other degree	10.8%	
Type of contract	Permanent	75.7%	75.7%
	Annual supply teacher	13.5%	24.3%
	Temporary	10.8%	
Type of post	Class teacher Language Area	45.9%	91.9%
	Mathematics/Science Area	45.9%	
	Support teacher for disabled pupils	8.1%	8.1%
Number pupils in class	Average *(SD)*	19.97 (4.17)	
	Range	13-27	

To investigate the teacher's perception of the relationship with a specific child, the tool used was the STRS, *Student-Teacher Relationship Scale* di Pianta (2001b) in the version adapted to the Italian context by Fraire *et al.* (2008). STRS assesses the teacher-pupil relationship in three dimensions: *Conflict* (theoretical score range: 10-50), referring to the perception of negative aspects and difficulties present in the relationship, *Dependence* (theoretical score range: 4-20), indicating how dependent the teacher feels the pupil is on him/her, and *Closeness* (theoretical score range: 8-40), considering aspects of sharing and affinity. The teachers compiled the STRS with reference to twelve pupils in their class (six boys and six girls) drawn at random.

RESULTS

The results of the MBI (Tab. 2) show that the teachers perceive low levels of *Emotional Exhaustion* (*M*=12.49; *SD*=6.492; range: 4-34) and of *Depersonalization*

(*M*=1.08; *SD*=1.935; range: 0-7) and moderate levels of *Personal Gratification* (*M*=39.92; *SD*=6.861; range: 24-48). Therefore, there is a low degree of burnout. The scores on *Emotional Exhaustion* and on *Depersonalization* correlate positively (*r*=.532; *p*<0.01), those on *Personal Gratification* correlate negatively with *Emotional Exhaustion* (*r*=-.732; *p*<0.001) and with *Depersonalization* (*r*=-.650; *p*<0.001) (Tab. 4).

Table 2. Descriptive analysis of MBI, CSC, STRS

		Average	SD	Range (min-max)
MBI	Emotional Exhaustion	12.49	6.492	4-34
	Depersonalization	1.08	1.935	0-7
	Personal Gratification	39.92	6.861	24-48
CSC	Class context	90.67	12.926	60-108
	School context	36.78	5.737	20-47
STRS	Conflict	12.62	3.029	10.25 -26.42
	Dependence	5.76	.750	4.67-7.75
	Closeness	31.18	1.673	27.34-35.50

Table 3. Correlations and associations between dimensions of MBI and CSC and teachers' socio-personal/ professional data

		Age	Marital status (married/ single) *(t)*	Number of children *(r)*	Years of teaching *(r)*	Qualification *(F)*	Type of contract *(t)*	Type of post -class or support teacher- *(t)*	Subject area *(t)*	Number pupils in class *(r)*
MBI	Emotional Exhaustion	.132	.013	.243	.152	1.824	1.273	1.456	-.777	-.267
	Depersonalization	.155	-.355	.348*	.005	2.496	3.573**	1.010	-1.034	-.210
	Personal Gratification	-.158	.254	-.361*	-.120	2.116	-2.086*	-4.006**	.817	-.080
CSC	Class context	-.213	.584	-.369*	-.127	3.753*	-3.259**	-1.674	1.060	.085
	School context	.088	.528	.096	.103	6.668**	.869	-.069	-.007	.109

Statistical Analysis: (r)= Pearson's r; (F)= F di Fisher (ANOVA); (*t*)= Students' t test. **: *p*<0,01; *: p<0,05.

Table 4. Correlations between the dimensions of MBI, CSC and STRS

		MBI			CSC		Achieving levels		Effort levels	
		Emotional Exhaustion	Depersonalization	Personal Gratification	Class context	Class context	N ° high-achieving pupils	N° low-achieving pupils	N° pupils with high effort	N° pupils with low effort
MBI	Emotional Exhaustion	1	.532**	-.732**	-.745**	-.268	-.456**	.304	-.366*	.232
	Depersonalization	.532**	1	-.650**	-.709**	-.306	-.122	.157	-.318	.347
	Personal Gratification	-.732**	-.650**	1	.813**	.423*	.173	-.155	.475**	-.471**
CSC	Class context	-.745**	-.709**	.813**	1	.330*	.352	-.291	.556**	-.485**
	School context	-.268	-.306	.423*	.330*	1	.031	-.204	.281	-.185
STRS	Conflict	.175	.437*	-.446*	-.493**	-.142	.037	-.046	-.329	.510**
	Dependence	.113	-.080	.036	-.088	-.252	-.282	.524**	-.263	.211
	Closeness	.030	.068	.013	.069	-.119	.059	-.167	.228	-.317

**p<0.01; *p<0.05.

The results emerging from the CSC-TSES (Tab. 2) show that the sample presents a medium-high level of *Class Self-efficacy in Class* (*M*=90.67; *SD*=12.926; range: 60-108) and in the *School* context (*M*=36.78; *SD*=5.737; range: 20-47). A positive

correlation is found between *Class* and *School Self-efficacy* (r=.330; p<0.05) (Tab. 4). This finding is in line with the literature (Goddard & Goddard, 2001).

Neither burn-out levels nor self-efficacy levels are related to personal and professional variables such as age, marital status, years of teaching, length of service in the present school and class, subject area taught, number of pupils in the class (Tab. 3).

Both constructs are however associated to variables like whether the teacher has children, the qualification and the kind of contract; Personal Gratification is also associated to the type of post (Tab. 3).

Teachers without children in fact show greater levels of *Personal Gratification* (Student's t=2.564; df=34.998; p<0.05) and lower levels of *Depersonalization* (Student's t=-2.326; df=32.596; p<0.05). In particular, as the number of children goes up, so does the sense of *Depersonalization* (r=.348; p<0.05) while the level of *Personal Gratification* falls (r=-.361; p<0.050) as does the sense of *Class Self-efficacy* (r=-.369; p<0.05).

Graduates in Primary Teaching and those holding a specific school leaving certificate for trainee teachers are the teachers that perceive the highest levels of *Class Self-efficacy* (F=3.753; df=4; p<0.05) and *School Self-efficacy* (F=6.668; df=4; p<0.01).

In comparison to their permanent colleagues, the nine supply teachers on average feel more self-efficacy in class (Student's t=-3.259; df=27.052; p<0.01) and more personal gratification (Student's t=-2.086; df=35; p<0.05). They suffer from lower levels of *Depersonalization* (t Student=3.573; df=27; p<0.05) than their permanent colleagues. Finally, support teachers feel more personal gratification than class teacher (Student's t=-4.006; df=7.857; p<0.01).

Between burn-out and self-efficacy levels (Tab. 3) there are statistically significant correlations, specifically between *Class Self-efficacy* and the three dimensions of the IMB (*Emotional Exhaustion*: r=-.745; p<0.001; *Depersonalization*: r=-.709; p<0.001; *Personal Gratification*: r=.813; p<0.001). The increase in the sense of self-efficacy in class therefore corresponds to a growth in professional satisfaction and inversely, a reduction in the sense of emotional exhaustion and depersonalization. *Personal Gratification* also correlates positively with the sense of *School Self-efficacy* (r=.423; p<0.05).

This data confirms what the literature reports about the links between self-efficacy and burn-out, enabling it to be said that those who feel lacking in competence and self-efficacy in class are more exposed to the burn-out syndrome (Skaalvik & Skaalvik, 2010; Friedman, 2003; Friedman & Farber, 1992; Brouwers & Tomic, 2000; Ross, 1998). From the analysis of the correlations between the single items of the scales, it emerges that a greater workload corresponds to higher levels of *Emotional Exhaustion* and also to a more rigid and less flexible class management style. As various studies show (Chacon, 2005; Woolfolk *et al.*, 1990), teachers with low self-efficacy tend to

manage the class in a more controlling and authoritarian way. The present research too shows that the ability to manage the class more flexibly is linked to lower levels of teacher burn-out. The more empathy the teacher shows and the less he/she is affected by burn-out, the more he/she feels able to deal successfully with conflictual situations with the pupils, allowing them to take part in the decisions about learning, as shown by Midgley *et al.* (1988).

From the average scores assigned to the pupils by each teacher in the STRS scales (Tab. 2), there emerges a high average level of Closeness (M=31.18; SD=1.67; range: 27.34-35.50) and low levels of Conflict (M=12.63; SD=3.03; range: 10.25-26.42) and Dependence (M=5.76; SD=0.75; range: 4.67-7.75).

Class Self-efficacy correlates negatively with the teacher's perception about the levels of *Conflict* (Tab. 4) in relating to the pupils (r=-.493; p<0.01): as shown by Melby (1995) and by Pianta *et al.* (2005), a low sense of self-efficacy in class management is tied to a greater likelihood of conflictual relationships with the pupils.

As for *Class Self-efficacy*, also the MBI dimensions of *Personal Gratification* and *Depersonalization* correlate significantly with the average scores assigned by the teacher to the *Conflict* dimension in relationships with individual pupils (GP: r=-.446; p<0.05; DP: r=.437; p<0.05) (Tab. 4).

The greater the number of pupils the teacher perceives putting high effort into the activities presented, and the fewer perceived to be applying low *effort* (AE class: r=-.485; p<0.01; GP: r=-.471; p<0.01) the more self-efficacy in class he/she judges him/herself to have, and the more personal gratification he/she feels: r=.556; p<0.01; GP: r=.475; p<0.01) (Tab. 4). Various authors (Ross, 1998; Giusti & Testi, 2006) have underlined the predictive value of teachers' beliefs about efficacy in foreseeing the pupils' school performance. Goddard, Hoy, & Hoy (2000) specifically find a positive correlation between teachers' collective efficacy, and pupils' effort and subsequent scholastic performance. In this case, it is specifically the perception of the level of effort by the pupils, and not the achievement, that is correlated to the level of self-efficacy in class, though not in the school context. School self-efficacy on the other hand is not tied to any dimension of the teacher-pupil relationship. The increase in the number of pupils per class with high levels of *effort* corresponds to lower levels of *Emotional Exhaustion* (r=-.366; p<0.05). *Emotional Exhaustion* also correlates negatively with the number of high *achieving* pupils (r=-.456; p<0.05). From the results obtained, it can be stated that the greater the number of high-achieving and high-effort pupils in the class, the lower the risk of burn-out for the teacher. At the same time, as the circle turns, it can be said that teachers with more gratification and self-efficacy are more likely to have more motivated pupils who achieve better results.

Lastly, there are (Tab. 4) statistically significant positive correlations, well-known in the literature, existing between the number of low-achieving pupils and the

levels of *Dependence* (r=.524; p<0.01) and the number of pupils with low effort and levels of *Conflict* (r=.510; p<0.01).

CONCLUSIONS

The analyses carried out show that the sample involved was on the whole not greatly affected by the burn-out syndrome, presenting low average levels of Emotional Exhaustion and Depersonalization, and high levels of Personal Gratification. The degree of self-efficacy is medium to high. Similar considerations can be made about the quality of the relationships established with the pupils: from the results it emerges in fact that overall the average level of Closeness is high and levels of Conflict and Dependence are low.

A reciprocal influence is observed between the level of teacher's self-efficacy and the degree of burn-out: the negative correlation between the teacher's self-efficacy in class, Emotional Exhaustion and Depersonalization, found by Skaalvik & Skaalvik (2010) but also by other scholars (Friedman, 2003; Friedman & Farber, 1992; Brouwers & Tomic, 2000), shows that teachers with low self-efficacy are more vulnerable to burnout and, at the same time, that the onset of burn-out can undermine their sense of self-efficacy.

The level of emotional and psychological well-being is also correlated to low levels of conflict perceived in relations with the pupil, in accordance with the findings of Yoon (2002), Melby (1995) and Pianta *et al.* (2005): a positive relational quality influences, and will in turn be influenced, with a broad spectrum of professional satisfaction experienced by the teacher in his/her work.

One limitation of the present study certainly concerns the small number of participants involved, due to the considerable resistance encountered in the scholastic institutions contacted. On this point, it might be of interest to repeat the study on broader sections of the population or to adopt a longitudinal approach, in order to explore the direction of causal relations between some of the dimensions examined such as the personal factors of self-esteem, resilience and coping, along with the perceptions of the context. Further in-depth studies could also concern the different types of primary school teachers, analyzing for instance the specific work experience of support teachers working with disabled pupils.

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