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Does Empathy Predict Instructional Assignment-Related Stress? A Study in Special and General Education Teachers

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ABSTRACT

The role of empathy in the teaching profession has been vastly investigated in relation to its effect on students, but research on how teachers' empathy affects their own well-being at work is limited. This study investigated empathy and instructional assignment-related stress factors of primary school teachers serving in general or special education; moreover, it investigated if empathy predicted instructional assignment-related stress. Data were collected from 190 primary school teachers using the Interpersonal Reactivity Index and the Inventory of Job-related Stress Factors. Teachers reported moderately high levels of perspective-taking and empathic concern and lower levels of fantasising and personal distress. Also, they reported moderate to low levels of stress regarding instructional assignment-related factors. General and special education teachers did not differ in their reported scores on empathy or stress-related factors. Finally, it was found that instructional assignment-related stress factors can be predicted by personal distress and fantasising; however, the core empathy skills (empathic concern and perspective taking) were not found to be strong predictors of the stress factors tested.

KEYWORDS

Empathy; general education; instructional assignment-related stress; Interpersonal Reactivity Index; inventory of job-related stress factors; perspective taking; special education; teachers

Introduction

Empathy is considered an important factor contributing to successful interpersonal interaction and emotional management of oneself and others (Bar-On, 2005). In the teaching profession, the ability to interact in a constructive way with peers, students and parents is regarded as significant (Darling-Hammond, 2000); the ability to manage emotions so as to protect oneself against stressful job situations is highly important for teachers' well-being (Cooper, 2004). In an effort to increase protection against job-related stress, researchers have attempted to identify personality traits that may predict this stress intensity. Examples of traits that have been investigated include neuroticism (Kokkinos, 2007) and emotional intelligence (Chan, 2006; Platsidou, 2010). It is possible that empathy may also be a predictor of job-related stress but, to date, the association has not been extensively studied. Therefore, the present study aims to contribute to this area of research by investigating the empathy levels and the instructional assignment-related stress factors of teachers, with the aim of delineating their possible predictive relationship.

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Empathy and Individual Differences

Empathy is generally conceptualised as the ability to precisely examine another person's perception, feelings and experience without making judgement, and to communicate one's understanding concisely to the person (Davis, 1996; Siu & Shek, 2005). Empathy is distinct from sympathy and compassion (as they both emerge in situations of perceived suffering but do not lead to co-experiencing the affective state of the sufferer; Lee, 2009) or pity (i.e. to 'feel sorry' for an individual in a disadvantaged state; Eisenberg & Strayer, 1987). Moreover, empathy is regarded as a multi-faceted construct that includes various components, ranging from low-level mechanisms, such as emotional contagion (i.e. to 'catch' the emotions of others without necessarily recognising this is happening), to high-level processes, such as perspective-taking (Leiberg & Anders, 2006). However, there is no consensus among researchers in regard to the specific structure or dimensions of the construct (Baldner & McGinley, 2014; Batson, 2009). There is more agreement concerning the interaction of cognitive and emotional processes in empathy (Davis, 1996; Shamay-Tsoory, Aharon-Peretz, & Perry, 2009). Cognitive processes (such as perception, matching, labelling of emotions and perspective-taking) underlie the drive to identify another's mental state and/or experience. Emotional processes (namely, affective reactions in response to the observed emotion) underlie the drive to respond with an appropriate emotion to another's mental state or experience.

A multi-dimensional framework of empathy which includes both cognitive and emotional components has been proposed by Davis (1980, 1983). In this approach, *fantasising* denotes a tendency of the respondent to identify strongly with fictitious characters in books, movies or plays; *perspective-taking* reflects a tendency or ability of the respondent to adopt the perspective or point of view of other people; *empathic concern* describes the inclination to experience sympathy and compassion towards others in response to their suffering; finally, *personal distress* indicates the inclination to experience self-oriented feelings of discomfort and anxiety when witnessing the negative experiences of others. Apparently, the first two of the aforementioned empathy components pertain to cognitive processes, while the last two pertain to emotional processes (Davis, 1983).

The ability to empathise varies between individuals, that is, some people are generally more successful in empathising than others. In adulthood, empathy in general is stable or declines with proceeding age. However, specific facets such as perspective-taking and empathic concern continue to increase as the person gets older, while others such as personal distress and the ability to fantasise tend to decrease (Eisenberg, 1988; Hawk et al., 2013).

In relation to gender, empirical studies mostly relying on self-report data consistently report higher scores for females, especially on the components involving emotional processes, such as empathic concern and personal distress (Davis, 1996; Tilburg, Unterberg, & Vingerhoets, 2002; Van der Graaff et al., 2014). A study by Rueckert, Branch, and Doan (2011) has shown that gender differences in self-reported empathy (in favour of females) may be due to differences in general emotional responsiveness. Recently, gender differences have also been reported for the neural correlates of empathic abilities such as perspective taking, emotion recognition and affective responsiveness. The Derntl et al. study (2010) revealed that females show stronger neural activation across all empathy tasks in emotion-related areas, including the amygdala. Results support the assumption that both males and females rely on divergent processing strategies when solving emotional tasks: while females seem

to recruit more emotion and self-related regions, males activate more cortical, rather cognitive-related areas.

Research has shown that different empathy components hold specific links with a range of psychosocial processes which affect one's function at the workplace. For example, perspective taking, empathic concern and fantasising are linked with prosocial tendencies, including more helping behaviour (Batson, Fultz, & Schoenrade, 1987; Hawk et al., 2013) and less aggression and antisocial behaviour (Richardson, Hammock, Smith, Gardner, & Signo, 1994). Furthermore, perspective-taking is negatively associated with social anxiety and neuroticism, whereas empathic concern, fantasising and personal distress are positively associated with them (Davis & Franzoi, 1991; De Corte et al., 2007). Also, Hawk et al. (2013) provide evidence supporting previous suggestions that personal distress is related to distancing oneself from others in distress (Batson et al., 1987). It is interesting to note that professionals (such as nurses and social workers) who experience high personal distress have more difficulty relating well to clients (Riggio & Taylor, 2000) and report increased compassion fatigue and burnout, and lower compassion satisfaction (Thomas, 2013). Based on the above, it can be assumed that empathy is an important parameter for the psychological well-being and function in the workplace, especially for professions based on social interaction, such as teachers.

Empathy in the Teaching Profession

The role of empathy in the teaching profession has been extensively investigated in relation to its effect on students; i.e. it was found that empathic capacities which often manifest themselves in teachers' caring relationships with their students enforce student motivation and academic performance (Cooper, 2004). In addition, it was found that teacher empathy can potentially foster student openness, attentiveness and positive relations, especially in culturally diverse classrooms (McAllister & Irvine, 2002). In educating autistic children, empathic skills can provide significant benefits (Ashley, 2010). In the rapidly expanding area of inclusion of students with disabilities, empathy is considered a primary teacher disposition, deepening the understanding of student needs and facilitating teachers' professional development (European Agency for Development in Special Needs Education, 2010).

However, empirical evidence on how teacher empathy affects their own well-being at work is limited. For example, it was found that teachers' empathy skills relate positively to their professional self-esteem (Ceylan, Yıldız Bıçakçı, Gürsoy, & Aral, 2009). Another study (Stojiljković, Djigić, & Zlatković, 2012) has found that empathy is associated with teachers' perceived effectiveness in performing various professional roles (such as motivator, evaluator, partner in social interactions, regulator of social relations, etc.). Actually, it seemed that the cognitive aspect of empathy is more closely related to those roles than the emotional aspects. Finally, it is worthy to note that in this study, the level of self-reported empathy of teachers was relatively high, but no significant effects of gender, age or teaching experience were noted.

On the other hand, research by Williams (1989) of teachers', nurses' and social workers' empathy showed that high empathy may predispose them to emotional exhaustion, suggesting that individuals with high emotional empathetic capacities are vulnerable to burnout. Based on the above, it is intriguing to explore the empathy skills of teachers in relation to specific stress factors experienced in their daily job at school. An interesting question

refers to the possible differences between teachers of general and special education in relation to empathy. Although the importance of empathy in daily school practice has been widely recognised, it has also been acknowledged that the opportunities for general education teachers to show empathy is often constrained by factors such as heavy caseloads and abundance of duties (Cooper, 2010). However, school practice in special education units is usually characterised by low student-to-teacher ratios, thus offering special education teachers better chances to develop and demonstrate empathy towards their students. Moreover, it is vital that special educators empathise with their students in order to become highly committed to the implementation of a creative and flexible instruction which attends the specific psycho-pedagogical and socio-emotional needs of these students (Pearce, Gray, & Campbell-Evans, 2009). Increased teacher empathic functioning has been found to be associated with increased positive attitudes towards students with disabilities. These positive attitudes also constitute an important factor in special educators' decisions to undertake full responsibility for making the critical instructional adaptations required for supporting these students (Barr, 2013). Increased special educators' empathy could emanate from their personality, which may have been a main parameter in their choice of special education as a professional field in the first place. Alternatively, it may be a product of their studies and their professional training or it may result from the combined effect of both these factors. Although there is evidence that special educators' empathy may not be significantly higher than that of primary educators, but significantly higher than that of secondary educators (Klis & Kossewska, 1996), the respective research is scant and the issue is worthy of further investigation.

Job-Related Stress Factors in Teaching

Wisniewski and Gargiulo (1997) have suggested that teachers' job-related stress in general and special education emanates from four categories of stress-producing environmental and contextual factors: organisational structures, interpersonal interactions, professional training and instructional assignments. Although each category has a unique status, it can be argued that instructional assignments somehow reflect, and even include, the other three domains, since specification, allocation, supervision and evaluation of instructional assignments (such as writing essays, delivering oral presentations or solving problems) require that teachers implement an array of demanding tasks (such as student assessment and diagnosis, organisation of individualised programmes, choice and appropriate use of methods and instructional materials, behaviour management, and cooperation with parents and other professionals), which clearly depend on organisational factors, interpersonal interactions and professional training.

Previous research has shown that Greek special education teachers report moderate to low levels of stress in factors related to instructional assignments, such as being responsible for the education of students belonging to considerably different categories of special needs, specifying the main goals of the individualised programmes and implementing the necessary instruction, collaborating with other special education experts (e.g. psychologists), and choosing the appropriate means and procedures for assessing the students (Platsidou & Agaliotis, 2008). On the other hand, studies carried out in northern European and northern American countries have yielded contradictory results, demonstrating higher levels of stress for some of the aforementioned factors; for example, it has been found that teaching

students who belong to multiple categories of special needs, teaching many children simultaneously and lack of good relations with the school principal, peers or parents imposed high stress to teachers (Billingsley, 2004; Sloan Nichols & LaPlante Sosnowsky, 2002; Wisniewski & Gargiulo, 1997).

Findings regarding the intensity of instructional assignment-related stress between teachers serving in general and special education are also contradictory. Most studies showed that special education teachers experience higher levels of stress (resulting from teaching children with multiple disabilities, emotional and behavioural disorders and poor motivation) compared to general education teachers (Billingsley, 2004; Fore, Martin, & Bender, 2002; Sloan Nichols & LaPlante Sosnowsky, 2002; Wisniewski & Gargiulo, 1997), while others have found no significant differences (Sutton & Huberty, 1984).

In predicting teachers' job-related stress, most studies have included factors such as work-privacy conflict, job demands, role conflicts, job insecurity and feedback (Kozak, Kersten, Schillmöller, & Nienhaus, 2013). Furthermore, personality traits (such as neuroticism, extraversion and agreeableness) and emotional resources (such as emotional appraisal, positive regulation of emotions and optimism) have been identified as predictors of job-related stress of teachers (Cano-García, Padilla-Muñoz, & Carrasco-Ortiz, 2005; Chan, 2006; Kokkinos, 2007; Platsidou, 2010). However, although empathy is considered important in the teaching profession, research on empathy skills in regard to predicting job-related stress is scant. The present study focused on exploring this relationship.

Aims of the Present Study

The present study aimed: (a) to investigate empathy skills and instructional assignment-related stress factors of primary school teachers serving in general or special education, and (b) to assess the role of empathy skills in predicting the instructional assignment-related stress factors tested. Based on prior findings discussed earlier (e.g. Davis & Franzoi, 1991; De Corte et al., 2007; Hawk et al., 2013), it was hypothesised that the empathy skills that implicate emotional components (that is, empathic concern and personal distress) would be better predictors of teachers' stress reports.

Furthermore, the study aimed to identify differences in empathy and stress levels between teachers who serve in general education and those who serve in special education. It was proposed that special education teachers require alternative means of understanding the needs of their students, in the face of these students' atypical learning and behaviour modes and their subsequent difficulty in communicating their problems (Mercer, Mercer, & Pullen, 2011). The importance ascribed to teacher empathy by educational leaders and researchers, especially in the context of inclusion, was also acknowledged (e.g. Pearce et al., 2009). Therefore, it was hypothesised that special education teachers would possess (and report) higher empathy levels, than the general education teachers.

Finally, the effects of teachers' individual differences in terms of gender, age and teaching experience on their empathy and job-related stress were also investigated. Specifically, females were hypothesised to report higher empathy levels, especially in empathic concern and personal distress (Davis, 1996; Tilburg et al., 2002; Van der Graaff et al., 2014). Also, it was hypothesised that with proceeding age teachers' levels of perspective-taking and empathic concern would increase, while levels of personal distress and fantasising would decline

(Eisenberg, 1988; Hawk et al., 2013). In relation to teaching experience, no prior findings exist to help us formulate a hypothesis.

Method

Participants

Data were collected from 190 primary school teachers, 68 males (35.8%) and 122 females (64.2%), holding full-time positions in general or special public schools in various regions of Northern Greece. Specifically, 102 of the participants were general education teachers and 88 were special education teachers. The average caseload for each general education teacher was 22 students, whereas the respective number for special education teachers was seven. The age range of the participants was 23–55 years, with a mean of 42.7 (SD = 7). Teaching experience ranged from 1 to 32 years with a mean of 15.5 (SD = 8.1). Regarding their previous qualifications, 97 participants (51.1%) held only an undergraduate teaching degree, while 93 (48.9%) also held a Masters or a Doctoral degree.

Measures

Interpersonal Reactivity Index (IRI)

Empathy was assessed with the IRI (Davis, 1980, 1983) translated into Greek by Tsitsas, Theodosopoulou, & Malikiossi-Loizou (2012). The IRI measures separate but related dimensions of dispositional empathy. Extended research has shown that the IRI is adequate for examining empathy across the span of adolescence and adulthood in various cultures (e.g. Fernández, Dufey, & Kramp, 2011; Hawk et al., 2013; Siu & Shek, 2005; Tsitsas & Malikiossi-Loizou, n.d.). It contains four seven-item subscales, each tapping a separate facet of empathy: *perspective-taking* (the reported tendency to spontaneously adopt the psychological point of view of others in everyday life), *empathic concern* (the tendency to experience feelings of sympathy and compassion for unfortunate others), *personal distress* (the tendency to experience distress and discomfort in response to extreme distress in others) and *fantasising* (the tendency to imaginatively transpose oneself into fictional situations). Participants responded to each item using a five-point scale (0 = does not describe me well, to 4 = describes me very well). Reliability of the four subscales was satisfactory both in the original form (α = .71–.77; Davis, 1980) and in the Greek form (α = .71–.81; Tsitsas & Malikiossi-Loizou, n.d.) of the IRI. Items are presented in Table 1.

Inventory of Job-Related Stress Factors (IJRSF)

This inventory was designed by Platsidou and Agaliotis (2008) with the aim of assessing the stressors related to instructional assignments as perceived by teachers. It consisted of 22 items, describing task demands that teachers commonly encounter, which tap four job-related stress factors: (1) teaching in a multi-category classroom; (2) programme organisation and implementation; (3) assessment of students; and (4) collaboration with other special education experts and parents. The psychometric characteristics of the inventory were satisfactory (Cronbach α = .72–.87). For the present study, some items of the IJRSF were modified to become suitable for testing teachers of both general and special education. Specifically, the item 'Programme organisation for coping with reading, writing and mathematics

Table 1. Principal component factor analysis with varimax rotation of the Interpersonal Reactivity Index.

	Factors			
	1	2	3	4
24. I tend to lose control during emergencies	.756			
6. In emergency situations, I feel apprehensive and ill-at-ease	.743			
17. Being in a tense emotional situation scares me	.725			
10. I sometimes feel helpless when I am in the middle of a very emotional situation	.712			
27. When I see someone who badly needs help in an emergency, I go to pieces	.576			
19. I am usually pretty effective in dealing with emergencies	−.571			
13. When I see someone get hurt, I tend to remain calm	−.430			
16. After seeing a play or movie, I have felt as though I were one of the characters		.836		
23. When I watch a good movie, I can very easily put myself in the place of a leading character		.790		
5. I really get involved with the feelings of the characters in a novel		.742		
26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me		.647		
1. I daydream and fantasise, with some regularity, about things that might happen to me		.625		
11. I sometimes try to understand my friends better by imagining how things look from their perspective			.691	
8. I try to look at everybody's side of a disagreement before I make a decision			.663	
21. I believe that there are two sides to every question and try to look at them both			.658	
28. Before criticising somebody, I try to imagine how I would feel if I were in their place			.632	
25. When I'm upset at someone, I usually try to 'put myself in his shoes' for a while			.611	
18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them				.743
14. Other people's misfortunes do not usually disturb me a great deal				.742
4. Sometimes I don't feel sorry for other people when they are having problems				.619
Eigenvalue	4.02	3.32	1.77	1.54
Variance %	16.47	15.16	12.76	8.91
Mean (SD)	1.65 (.65)	2.12 (.86)	2.83 (.59)	2.58 (.85)

Note: Only items with factor loading > .40 were included.

difficulties' was split into three items, which separately tested for the stress caused by programme organisation for coping with the three topics of difficulty. Also, two items of the original IJRSF were removed ('Teaching of more than five students with special needs at the same time' and 'Converting assessment findings of other special education experts into instructional practice'). Participants responded using a five-point scale (0 = No stress at all, to 4 = Excessive stress). The items of the IJRSF are presented in Table 2.

Statistical Analysis

Since the IRI was employed for the first time to assess Greek teachers' empathy, the first step was to investigate its structure before using it to test the hypotheses. For this purpose, exploratory factor analysis using varimax rotation was applied. Likewise, the latent structure of the IJRSF was tested using exploratory factor analysis with varimax rotation. Reliability indexes were estimated for all factors extracted. In the next step, the mean scores of the items loading on each factor were calculated. In the IRI, the raw scores in items 4, 13, 14, 18 and 19 were reversed before means were calculated, so as for higher scores to indicate a higher level of empathy in all items. To test for individual differences, a series of ANOVAs was applied using the empathy and instruction assignment-related stress factors as dependent variables and the teachers' specialty (general or special education), their gender and level of education, respectively, as independent variables. A priori power analysis performed with GPower 3.1 showed that with the actual sample size of 190, power = .80 and $\alpha = .05$, the minimum effect size that can be detected is $f = .204$, which is considered to be medium using Cohen's (1988) criteria. Correlations of the empathy and stress factors with age and teaching experience were also obtained. Finally, in order to examine how the empathy factors can predict each of the job-related stress factors, a series of multiple regression analyses (using the stepwise method) was conducted.

Results

Empathy of General and Special Education Teachers

A forced four-factor model was produced accounting for 46.6% of the total variance. In this model, eight items (2, 3, 7, 9, 12, 15, 20 and 22) were loaded either on a different factor than what both the original form of the IRI (Davis, 1980) and its adaptation in Greek (Tsitsas & Malikiossi-Loizou, n.d.) had found, or they loaded on more than one factor. Therefore, these items were removed and the analysis was re-run with the remaining 20 items. The new four-factor model (presented in Table 1) fitted the data very well, accounting for 53.3% of the total variance. Specifically, the first factor referred to *personal distress* (seven items, Cronbach's $\alpha = .79$), the second referred to *fantasising* (five items, Cronbach's $\alpha = .81$), the third referred to *perspective-taking* (five items, Cronbach's $\alpha = .71$) and the last factor referred to *empathic concern* (three items, Cronbach's $\alpha = .58$). As Cronbach's alphas indicate, internal consistencies of the first three factors were quite satisfactory, whereas internal consistency of the empathic concern factor was relatively low, probably due to the quite limited number of items loaded on it. Mean scores and standard deviations of the four empathy factors are presented in Table 1.

Table 2. Principal component factor analysis with varimax rotation of the Job-related Stress Factors-Revised scale.

	Factors			
	1	2	3	4
8. Programme organisation for coping with writing difficulties	.764			
9. Programme organisation for coping with difficulties in mathematics	.734			
7. Programme organisation for coping with reading difficulties	.728			
15. Accessing learning resources and instructional material	.671			
16. Adapting learning methods according to the students' special needs	.629			
13. Programme organisation for life skills training	.622			
10. Coping with behavioural problems	.589			
12. Programme organisation for learning strategies acquisition	.553			
11. Programme organisation for enhancing psychological and physical development	.544			
14. Defining learning goals for individual students	.543			
4. Students' self-esteem improvement	.530			
5. Teaching simultaneously students with one to two types of special needs (for special education teachers) or cognitive levels (for general education teachers)		.845		
6. Teaching simultaneously students with multiple more types of special needs (for special education teachers) or cognitive levels (for general education teachers)		.808		
1. Assessment of students' level of knowledge in various subjects		.607		
2. Assessment of students' general cognitive strengths and weaknesses		.602		
3. Changing of students' attitudes on certain programme subjects		.543		
21. Collaboration with special education experts			.857	
20. Collaboration with the Special Education School Advisor			.838	
19. Collaboration with parents			.713	
22. Collaboration with the other teachers			.620	
23. Realising that expertise acquired from training programmes is difficult to be applied in the daily practice				.822
24. Realising that college education is not enough to help the teacher cope with the multiple learning needs of students with particular problems				.781
Eigenvalue	9.61	2.08	.138	1.16
Variance %	24.45	16.95	13.64	9.62
Mean (SD)	2.27 (.77)	2.27 (.77)	2.11 (.97)	1.69 (.98)

Note: Only items with factor loading >.50 were included.

Regarding our initial research question, i.e. whether general and special education teachers differ in the four empathy factors, it is interesting to note that no significant differences were found in any case between the two groups, suggesting that teachers' feelings of empathy are not affected by the category of students they teach (i.e. predominately typical or with special needs) or the context in which their teaching takes place (general or special education classroom). Furthermore, no significant effects of gender and level of education were found, except for one case: female teachers ($M = 1.79$, SD = .65) reported higher levels of personal distress than their male colleagues ($M = 1.39$, SD = .58), $F(1, 188) = 17.95$, $p < .05$); effect size ($f = .314$) was medium to large (Cohen, 1988). As expected given the aforementioned results, the interaction between general/special education and gender or levels of education was non-significant. Finally, in relation to age, only one low, though significant, correlation between age and empathic concern was noted, suggesting that empathic concern is reduced with proceeding age ($r = -.19$, $p < .01$). Teaching experience had no significant correlations with any of the empathy factors.

Job-Related Stress Factors of General and Special Education Teachers

Regarding the factor structure of the IJRSF, a four-factor solution was revealed explaining 64.66% of the total variance (see Table 2). The first factor referred to stress related *to programme organisation and implementation of instructional goals* (11 items, $\alpha = .91$); the second factor referred to *students' assessment and multi-category* (for special education teachers) or *multi-level teaching* (for general education teachers) (five items, $\alpha = .86$); the third factor referred to *collaboration with parents and other professionals* in the field of education (four items, $\alpha = .86$); and the last factor referred to *teachers' self-monitoring* (two items, $\alpha = .76$). As Cronbach's alphas show, internal consistencies of the factors were quite to very satisfactory. Means and standard deviations of the three factors are presented in Table 2.

When the effects of teachers' specialty (general or special educators), gender and level of education on the job-related stress factors were tested, no significant effect of any of the above variables was noted. Also, no significant correlations of the job-related stress factors with either age or teaching experience were found.

Predicting Levels of Job-Related Stress Factors

Multiple regression analysis (with the stepwise method) was used to examine how the empathy dimensions predicted each of the job-related stress factors. The first regression model (see Table 3) disclosed that the job-related stress factor under examination (i.e. programme organisation and implementation) was significantly predicted only by personal distress, $F(1,188) = 18.26$, $p < .00$, suggesting that higher levels of personal distress predict higher levels of stress concerning programme organisation and implementation. In predicting stress related to students' assessment and multi-category or multi-level teaching, two empathy factors were revealed to be significant, $F(2,187) = 12.90$, $p < .00$. Specifically, higher levels of both personal distress and 'fantasising' empathy predict higher levels of teachers' stress in this job-related factor. In the third regression model, three empathy factors significantly predicted the level of teachers' stress caused by collaboration with parents and other school-related experts, $F(3,186) = 8.20$, $p < .00$; that is, higher levels of personal distress, fantasising and perspective-taking were associated with increased levels of teachers' stress

Table 3. Regression analyses (with the step-wise method) of the empathy dimensions on the instructional assignment-related stress factors.

	R^2	Adj ΔR^2	ΔR^2	ΔF	β	t
Programme organisation and implementation of teaching goals						
Personal distress	.09	.08		18.26	.298	4.27
Students' evaluation and coping with increased teaching needs						
Personal distress	.08	.08		16.83	.234	3.30
Fantasising	.12	.11	.04	8.31	.205	2.88
Cooperation with parents and other professionals						
Personal distress	.07	.07		14.90	.196	2.67
Fantasising	.10	.09	.02	4.75	.216	2.81
Perspective taking	.12	.10	.02	4.31	−.155	−2.08
Self-monitoring						
Personal distress	.07	.06		13.25	.257	3.64

when collaborating with parents and other school-related experts. Finally, in the fourth regression model, personal distress was again revealed as the single significant predictor of teachers' self-monitoring, $F(1,188) = 13.25$, $p < .00$, indicating that the higher the level of personal distress, the more teachers experience their self-monitoring as stressful. Statistical power analysis showed that all power estimates were higher than .86, indicating that there was sufficient power in the study to detect the effects.

Discussion

The present study investigated specific empathy skills and instructional assignment-related stress in primary school teachers, in order to: (a) explore teachers' perceived levels of the empathy and stress-related factors; (b) identify any effects of individual differences, such as type of educational service (i.e. in general or in special school), gender and age, on teachers' empathy and stress; and (c) examine the possible prediction of teachers' instructional assignment-related stress factors by the empathy dimensions tested. It must be noted that, to our knowledge, these issues have not been addressed so far in the international literature.

Empathy and Instructional Assignment-Related Stress of General and Special Education Teachers

Empathy was tested with the IRI; exploratory factor analysis showed that, once eight misfitting items were eliminated, a four-factor model emerged that was consistent with the original version of the IRI (Davis, 1980), as well its adaptation in Greek (Tsitsas & Malikiossi-Loizou, n.d.) and other languages (e.g. Fernandez et al., 2011; Hawk et al., 2013). This suggests that the IRI is a reliable measurement of empathy skills of Greek teachers. Specifically, teachers reported moderately high levels of perspective-taking and empathic concern and lower levels of fantasising and personal distress. These findings are similar to those of Tsitsas & Malikiossi-Loizos (n.d.) in a sample of Greek young adults.

Interestingly, our hypothesis regarding different empathy levels between general and special education teachers was not confirmed, as the two groups did not differ in their reported scores on any empathy dimension. This suggests that empathy is probably not included among the factors determining a teacher's decision to work in general or in special

education. Eventually, personality traits other than empathic capacities drive teachers to work in special education. Another possible explanation for this lack of difference may be found in the difficulties faced by Greek teachers in general to exhibit use of empathy in the unfavourable conditions of their daily work. General school teachers may find it difficult to use their empathy, as for decades now their main aim is content coverage, with minimum attention paid to instructional differentiation (which may promote empathy) (Sofou, 2002; Organisation for Economic Co-operation and Development (OECD, 2011). Special education teachers, on the other hand, struggle to implement the vague goals often included in their programmes, in order to support diverse students with considerable difficulties in accomplishing tasks of dubious utility, under much pressure by the families and with inadequate professional preparation (Agaliotis & Kartasidou, 2005; Soulis, Agaliotis, Voutyra, & Kartasidou, 2004). In both cases, then, the development of qualitative teacher–student interpersonal relationships, which favours empathy use, is hampered, thus preventing the appearance of difference between the two groups. At any rate, further investigation is warranted in order to understand which personality characteristics (if any) differentiate general from special educators, and which common characteristics of general and special education units may produce similar teacher behaviour regarding empathy.

In relation to gender differences, female teachers scored higher than their male colleagues only in relation to the personal distress component. This is only partly in line with previous findings (e.g. Davis, 1980, 1996; Hatcher et al., 1994), which have suggested that females reported higher scores than men in all empathy dimensions, especially those implicating affective reactivity (i.e. personal distress and empathic concern). The considerable lack of gender differences in the other dimensions of empathy in the present study as well as in the Tsitsas and Malikiossi-Loizou (n.d.) study may be due to sampling, since considerably more women participated in both studies (the ratio of male vs. female representation was 1.8 and 1.5, respectively), and needs further investigation. In should be noted, however, that Stojiljković et al. (2012) who also tested teachers did not find any significant effects of gender, age or teaching experience on teachers' cognitive and emotional aspects of empathy.

Regarding age, only empathic concern was found to decline with proceeding age, suggesting that older teachers reported diminished empathic concern in comparison to younger teachers. No significant change was noted for the other three empathy dimensions. Recent research has shown that empathy increases from young to middle age, but then it starts to decline following an inverse U-shaped pattern (O'Brien, Konrath, Grühn, & Hagen, 2012). It must be noted that the results of the present study which were derived from young- to middle-aged adults (23 to 55 years) do not confirm this pattern of change. They also do not confirm prior findings which have shown that perspective-taking and empathy concern increase during adulthood, whereas personal distress and fantasising decrease (Hawk et al., 2013). It is worthy to further investigate whether this inconsistency is attributed to specific features of the teaching profession that may impede further empathy development in order to protect teachers from the potentially unfavourable effects of high empathy levels across their career span. Finally, teaching experience was found to have no significant correlations with any of the empathy factors, indicating that empathy is not affected by the increasing number of incidences encountered in daily school practice.

Teachers' instructional assignment-related stressors were tested with the IJRSF. Exploratory factors analysis revealed a four-factor model that to a large extent resembles the model found in the Platsidou and Agaliotis (2008) study. Also in high agreement to that study (which

tested only special education teachers), Greek general and special education teachers in the present study perceived three of the stress factors (programme organisation and implementation, student assessment and multi-category/level teaching, and collaboration with parents and other professionals) as moderately stressful, whereas they considered self-monitoring stressful to a moderately low degree. The difference in the reported stress levels between the first three and the fourth factor can be ascribed to the fact that programme organisation and implementation, student assessment and multi-category/level teaching, and collaboration with parents and other professionals already belong to the core of a teacher's daily duties; self-monitoring, on the other hand, has been very recently introduced in the Greek educational system in the framework of a school evaluation process that was initiated in the school year 2013–2014. Teachers' specialty (general or special educator), as well as their gender, previous qualifications, teaching experience and age, were found to have no significant relation with any of the instructional assignment-related stress factors.

In summary, the consistency of findings in the present and other relevant studies suggests that Greek teachers of general and special education experience moderate to low levels of stress regarding various job-related factors (e.g. Kokkinos & Davazoglou, 2009; Patsalis & Papoutsaki, 2010; Platsidou & Agaliotis, 2008; Tsigilis, Zachopoulou, & Grammatikopoulos, 2006). In other countries, however, research shows that similar job-related factors may cause much more stress to teachers (e.g. Billingsley, 2004; Kokkinos, 2007; Sari, 2004; Sloan Nichols & LaPlante Sosnowsky, 2002). To understand that discrepancy, one should take into account the fact that, contrary to the educational system of most western world countries, Greek teachers have enjoyed so far a high degree of job security, as the Greek educational system is far from having established a teacher evaluation procedure with serious ramifications for those who might be found inadequate. Consequently, Greek teachers consistently report lower levels of job-related stress compared to most of their colleagues from other countries. Likewise, prior studies have found that job security and lack of formal evaluation reduce emotional exhaustion and depersonalisation symptoms of Greek teachers and counterbalance the impact of the negative working conditions (Kantas & Vassilaki, 1997; Papastylianou, Kaila, & Polychronopoulos, 2009).

Empathy Dimensions Predicting Instructional Assignment-Related Stress

The main aim of this study was to investigate whether teachers' empathy dimensions can predict instructional assignment-related stress factors. Regression analyses revealed a differentiated model for each of the four stress factors as well as a varied predictive ability of each empathy dimension. Specifically, stress caused by programme organisation and implementation was predicted only by personal distress; stress related to assessment and multi-category or multi-level teaching was predicted by personal distress and fantasising; teachers' stress in collaborating with parents and other school-related experts was predicted by personal distress, fantasising and perspective taking; and, stress caused by self-monitoring was predicted by personal distress. Evidently, personal distress is the empathy dimension with the greatest ability to predict the instructional assignment-related stress factors, as it appears in all regression models, while empathic concern did not predict any of the stress factors. These findings only partly confirm our initial hypothesis, according to which empathy skills that implicate emotionality (i.e. personal distress and empathic concern) would be better predictors of teachers' stress reports (Davis & Franzoi, 1991; De Corte et al., 2007; Hawk

et al., 2013). Consequently, our initial hypothesis was verified for the former but not for the latter dimension.

Batson, Early, and Salvarani (1997) have found that different imagining perspectives (that is, how another feels and how you would feel) are distinct forms of perspective-taking and have different emotional and motivational implications. They found that imagining how the other feels produced empathy, which in turn evoked altruistic motivation; imagining how you would feel produced empathy, but it also produced personal distress; this, in turn, evoked egotistical motivation and distancing oneself from others' distress. Based on the above, to account for the predictive power of personal distress, a number of assumptions can be considered. It is possible that teachers who tend to develop feelings of discomfort and anxiety when witnessing the negative experiences of others, also tend to develop negative self-oriented thoughts and feelings such as: (a) recognising their responsibility in regard to the programme modifications needed for properly instructing students with atypical learning needs, and (b) feeling guilty for the fact that they do not implement such modifications, as required by their role ethics, thus depriving these students from the opportunity to achieve cognitive progress and social adaptation. As a result, these teachers are predicted to experience higher levels of stress in reference to programme organisation and implementation. Also, teachers with higher personal distress are predicted to develop higher levels of stress regarding assessment and multi-category or multi-level teaching, because they are concerned about their personal inadequacies in assessing and teaching and they fear they might be a source of problems to their students. In collaborating with parents and school-related experts, teachers with the inclination to experience self-oriented feelings of discomfort and anxiety may feel intimidated and develop higher levels of stress. In addition, those teachers may develop stronger negative feelings and thoughts at the process of self-monitoring, as they worry about the possible harmful consequences in case their self-monitoring generates negative outcomes. Failing in self-monitoring may adversely affect teacher's instructional self-esteem, thus leading them to a vicious circle of self-fulfilling prophecies and self-defeating behaviours.

Fantasising may trigger teachers' empathy for students who may have suffered educationally due to inadequate assessment or inappropriate teaching. On the other hand, it may produce stress in teachers when they have to do assessment and multi-category or multi-level teaching. In addition, fantasising may cause teachers stress when they need to collaborate with parents and school-related professionals, because they can fantasise that their insufficient knowledge and skills is likely to be revealed and embarrass them. In the same situation, teachers with a tendency to adopt the perspective of other people may also feel uneasy to compromise their own point of view with that of the others and, eventually, they may feel stressed. It is reminded that perspective-taking is a high-level process of empathy (Leiberg & Andres, 2006). As noted, it intervenes only in the teachers' collaboration with parents and other professionals' factor and not in the other stress-related factors, indicating that, in general, perspective-taking is not greatly related to teachers' instructional assignment-related stress.

Interestingly, empathic concern did not predict the specific stress factors tested in this study, contrary to what was expected. Although the inclination to experience sympathy and compassion towards others in response to their suffering may be important in the teaching profession (Ceylan et al., 2009; Cooper, 2004; McAllister & Irvine, 2002), it appears that empathic concern does not relate to instructional assignment-related stress factors. A similar

finding was revealed in a study of teachers in management institutes that showed no significant relationship between their empathy and stress levels (Kant & Sharma, 2012).

Study Limitations

The findings of the present research are limited by certain factors. Firstly, they were obtained by a correlational and cross sectional study, which means that no cause-and-effect conclusions can be drawn. Moreover, the study was based on teachers' self-reports, hence the findings are related solely to teachers' perceived empathy and job-related stress levels, as no measurement of their actual empathy and job-related stress was undertaken. Finally, the size of the sample (although sufficient for data analysis) prevent us from determining whether the established inconsistencies between the present study and prior studies are attributed to cultural factors or the teaching profession. Despite these limitations, we support the view that these findings provide the impetus for a deeper study of the relationship between empathy and job -related stress in teachers.

Directions for Future Research and Concluding Comments

The role of teachers' empathy in experiencing instructional assignment-related stress has not been studied to date, to our knowledge. The current study offers preliminary evidence on this topic; it was found that instructional assignment-related stress factors can be predicted by empathy dimensions, such as personal distress and fantasising; however, the core empathy skills (such as empathic concern and perspective taking) do not intervene with the stress factors tested. Provided that these results will be corroborated by future studies, they may be taken as supporting the view that Greek teachers approach their job obligations in a rather detached, narrow and self-referenced manner, as they are mainly concentrated on unsubstantial evidence (resulting from fantasising), and on the possible consequences for themselves (resulting from personal distress). Such an approach to job obligations, though, may lead to delimited empathetic understanding of students and may also compromise the effectiveness of the implemented instructional practice. Given the widely acknowledged importance of teacher empathy in implementing differentiated instruction for diverse learners and, also, for creating a school environment promoting equity, excellence and ethical integrity (European Agency for Development in Special Needs Education, 2010), it seems necessary for future research to specify and validate processes through which all empathy dimensions could be developed in teachers (especially empathic concern and perspective taking), in order for them to widen their emotional connection to their students and improve their instruction. Failure to establish processes of empathy enhancement in teachers could result in the preservation of self-referenced educational practices, which deprive both teachers and students of the chance to fully deploy their potential and achieve jointly appropriate educational results. In teacher populations already exhibiting certain empathy dimensions, such as the population studied in the present research, the development of the full scale of empathy abilities may be more favourable, as new empathy elements may be built upon old ones, or it may be more difficult, as old empathy elements may block the development of new ones. The course of actions for achieving the best results may be established only through appropriate research.

Disclosure Statement

No potential conflict of interest was reported by the authors.

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