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# Teacher gender-related influences in Greek schools

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**Background.** Although there is a wealth of empirical studies examining the effects and the correlates of student gender in school, teacher gender has rarely been a research focus. Since Greece is one of the few Western countries with an about equal percentage of male and female teachers at primary and secondary levels of public education, it offers itself as a well-suited context for exploring teacher gender-related influences.

**Aims.** The aim of the study was to examine gender-related differences in Greek classrooms focusing on teacher gender. It was hypothesised that due to the societal context clear gender effects could be detected. It was also assumed that teacher-student interaction patterns would be influenced by teacher gender not so much as a main effect but as interaction effects involving variables such as student gender, student achievement, grade, and teacher specialisation.

**Samples.** The samples consisted of 1041 elementary school (mean age = 11.4 years) and 862 secondary school (mean age = 14.3 years) students in public schools in Greece.

**Methods.** A multi-informant and multiperspective approach to academic and psychosocial competence was used, involving teacher, peer, and self-ratings. Achievement data were also obtained.

**Results.** Several significant teacher gender differences were found in teachers' assessment of students' competence at both age groups. Furthermore, various domains of children's self-concept were found to be different in classes of female and male teachers.

**Conclusions.** The findings indicate the need to use teacher gender as a relevant variable in future research.

Schools and families are interacting systems and have important roles to play in educating and socialising children. There has been a long debate in the literature over

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the definition of schooling as more or less influential than families or socio-economic realities. Recent research on school effectiveness (Sylva, 1994), family environments and home-school collaboration (Christenson, Rounds & Gorney, 1992) emphasises the importance of various differentiating characteristics, interaction patterns and interpersonal processes in school and family environments that promote children's development and school success.

In the last two decades there has been an explosion of studies on school effectiveness world-wide aiming at determining the variables which are related to successful pupil outcomes. The majority of findings indicated school's strong influence on children's development and achievement and showed that various school and class characteristics influence pupils' attitudes to school and subjects, their attendance rates and social/antisocial behaviour (Sylva, 1994). Furthermore, studies on school effectiveness in developed and developing countries attempted to isolate empirically those instructional inputs and teaching practices that yield higher achievement and indicated which policy-manipulable inputs (i.e. instructional material and certain forms of teacher education) will probably make a difference within impoverished communities (Fuller & Clarke, 1994).

The actual teaching-learning process in the classroom can be considered as involving several different types of interventions by a teacher including providing relevant content, eliciting various cognitive and affective processes, encouraging motivation and relating to students in personal ways that affect their feelings of self-efficacy and personal goals (Shuell, 1993). Research studies showed the interaction of many variables that influence teacher-student interaction including environmental factors, teacher attributes such as gender and attitudes toward sex-role stereotypes, and student variables such as gender, race, ability, grade level and perceptions of student and teacher characteristics (Lindow, Marrett & Wilkinson, 1985).

Gender<sup>1</sup> plays an important role in the perceptions and behaviour of adults and children in schools, affecting various aspects of children's school experiences. School environment provides countless stimuli for the children's gender stereotypic system. Significant efforts have been made in many countries addressing issues of gender bias and promoting gender equity in the schools. Researchers, though, have emphasised that change has occurred slowly and research findings have documented the pervasiveness of traditional gender-role messages, expectations, and practices in the various domains of school culture (Henning-Stout & Conoley, 1992; Meece, 1987; Lee, Smith & Cioci, 1993). Despite the apparent significance of gender issues, the rarity of theoretical and research considerations of gender influences in the educational and school psychology literature has been pointed out (Henning-Stout & Conoley, 1992) as well.

Regarding the interaction between the teacher and the gender of students, studies have shown that boys and girls are treated differently by their teachers. In their extensive reviews of the relevant literature, Brophy (1985) and Meece (1987) indicate that teachers pay more attention to boys, give them more public response opportunities, praise them more frequently and criticise them more for poor performance and misbehaviour. They conclude, though, that teachers' differential behaviours mainly reflect and are a consequence of the gender-typed differences in the students' behaviour. In numerous other studies gender differences have been further found to interact with students' academic achievement, interests, classroom behaviour, race, and subject

matter (Baumert, 1992; Streitmatter, 1994). In these studies only the student, not the teacher sex was taken into account. Findings also indicated that patterns of teacher-student interaction may be influenced by gender of student not so much as a main effect but as parts of interaction effects involving various variables.

Another interesting variable possibly related to differential responses of teachers to students and of students to teachers is teachers' gender. Bibliographic search shows that astonishingly little research has focused on the teacher gender variable. Based on the findings of few studies, minor differences have been found in the behaviour of male and female teachers in the classroom at both educational levels (Brophy, 1985; Meece, 1987). However, research findings suggest that teachers hold different expectations of students based on gender (Dweck, Davidson, Nelson & Enna, 1978) and have different interaction patterns with boys and girls (Jones & Wheatley, 1990). Significant interaction effects between teacher gender and student gender have been further found in teachers' perceptions and evaluations of students' undesirable behavioural patterns in general and special education (Borg & Falzon, 1993; McIntyre, 1988; Ritter, 1989). Furthermore, female secondary school students perceive the classroom psychosocial environment more favourably when they have male teachers, and male students when they have female teachers (Lawrenz, 1987). Thus, it becomes evident that gender affects in various complicated and interrelated ways the perceptions and behaviour of teachers and students in the school setting. It can also be assumed that students, according to age, may react differently to the sex of their teachers. This study examines gender-related differences in the Greek schools having a main focus on teacher gender.

In order to understand better the context and findings of this study, it is necessary to mention briefly some relevant aspects of the Greek educational system, culture and societal norms which differ from other countries.

The Greek school system consists of a 6-year elementary school followed by a 3-year junior high school ('Gymnasio') and a 3-year high school ('Lykio'). Education is compulsory for 9 years (elementary school and junior high school). The system is centralised and the curriculum is fully prescribed for every grade and every school in the country. Teachers usually follow the traditional method of instruction and recitation is mainly used. One of the most striking features of the Greek school system is the lack of selectivity during the 12 school years. Within the schools, there is neither streaming nor special placement (with the exception of very few schools) nor any other kind of grouping according to achievement (Hatzichristou & Hopf, 1993) with the consequence of very little age variance within grades. However, Greek parents invest considerable resources into private lessons for the students and in private coaching institutions ('Fronstistiria') which prepare the students mainly for the highly selective entrance examinations of the tertiary sector of the educational system.

In the last decades, efforts have been made to remove gender discrimination in education, which included the abolition of single-sex secondary schools, the abolition of a school pinafore for girls, the removal of gender stereotypic images from textbooks, and the possibility for males to enter pre-school (kindergarten) teacher education. Nevertheless, there is still a clear distinction of the specific stereotypic roles of males and females in the various family and work roles in the textbooks (Kantartzi, 1991). On the other hand, Greece is one of the countries where the percentage of the age group

graduating from secondary schools was higher for girls than boys at an earlier time period than in many other industrialised countries. This is further reflected in the corresponding almost equal percentages of male and female university students (female university students: 48.7%, female university graduates: 51.1%, *Statistical Yearbook of Greece, 1988*). Greek parents put a lot of emphasis on the education of their children. Thus, much pressure for school achievement is exerted on children and academic success is connected to social elevation aspirations of the family (Katakis, 1984). Concerning students in primary and secondary schools, the gender issue is a complex matter characterised on the one hand by still prevailing traditional sex stereotypes and at the same time by optimal educational chances for girls.

A special feature of the Greek educational system is the relatively high percentage of male teachers in contrast to the world-wide trend of feminisation of the teaching profession, especially at the primary education level. In fact, Greece has the lowest percentage of female teachers in primary education (49.3%) in comparison with all European countries and with Canada, Japan and USA as well (Schümer, 1992). The percentages of female teachers are 56.5% at the secondary level of general education – both levels included – (62.8% at junior high school level and 47.7% at high school level) and 34.2% in the secondary technical and vocational schools (*Statistical Yearbook of Greece, 1988*). Similar to other countries there are significant variations depending on the subject matter. The percentage of female educators drops significantly at the university level (26.8%), with a further drop when tenure-track faculty positions are considered.

The nearly equal percentages of male and female teachers in primary and secondary education are related to the fact that the majority of teachers come from rural and semi-urban areas (contrary to many other countries). They regard university education and teacher profession as means for socio-economic elevation and secure future employment. Since they tend to be exposed to stricter gender-role socialisation being brought up in small places, it can be expected that Greek teachers are rather traditional in their sex-role orientations.

Gender schema theory proposes that societal emphasis on gender dichotomy combined with cognitive developmental process firmly establish gender as a powerful schema in the developing child's early experiences (Bem, 1981). Thus, the children develop the cognitive processes and the culture determines the most salient content. Greek societal and educational context with its sharp gender-role stratification stresses the importance of an individual's sex in virtually every aspect of life. These differences are pronounced in the school environment and the following question becomes important: to what extent are the behaviour and perceptions of teachers, peers, and children themselves influenced by gender-based differentiation?

The purpose of the present study was to extend previous research on gender-related differences in the classrooms focusing on teacher gender and exploring its various correlates and influences. Based on previous research, we hypothesised that teacher gender (and student gender as well) may be more informative as part of interaction effects than as a main effect in helping to understand students' classroom experiences. Interaction effects of teacher gender with several independent variables – including student gender – were examined in order to obtain a more synthetic picture of its effects in the school environment. Different educational (primary and secondary) and grade

levels were included in the analysis in order to examine age related differences as well. A multi-informant, multiperspective approach to academic and psychosocial competence was used, involving teacher, peer, and self-ratings and academic achievement data. Available evidence suggests the importance of using a multimethod assessment approach of children's academic and psychosocial functioning (Hatzichristou, 1987; Hatzichristou & Hopf, 1995). The use of a multiperspective method is particularly important for exploring the multidimensional influence of the gender-role stereotypes in the various domains of academic and psychosocial competence. Due to the clear gender-role differentiation of the Greek society, we expected to find substantial gender-related differences in teachers' perspectives and children's functioning.

## Method

### *Sample*

The sample consisted of two age groups: Group A) 10- to 12-year-old ( $M = 11.4$ ,  $SD = 0.65$ ) Greek elementary school pupils (fifth- and sixth-graders,  $N = 1041$ ) and Group B) 13- to 16-year-old ( $M = 14.3$ ,  $SD = 0.91$ ) Greek secondary school students (first, second, third graders of junior high school and first graders of high school,  $N = 862$ ). Of the 1041 children in group A, 49.7% were boys ( $N = 517$ ) and 50.3% were girls ( $N = 524$ ) and of the 862 adolescents in group B, 52.2% were boys ( $N = 450$ ) and 47.8% were girls ( $N = 412$ ). The students attended mainstream public schools in various villages, towns and cities in northern Greece. Both elementary and secondary schools have classes with 28 students on average who remain together during school hours. A random sampling procedure of schools and classes was followed and all students within each classroom of the sample were measured. The participation of the teachers and students was voluntary. All teachers and students asked agreed to participate.

There were 80.6% ( $N = 29$ ) male and 19.4% ( $N = 7$ ) female teachers in our primary school sample, and 30% ( $N = 9$ ) male and 70% ( $N = 21$ ) female teachers in our secondary school sample. At secondary stage, female teachers are slightly over-represented in our sample as compared to the figures mentioned in the *Statistical Yearbook* of 1988. In primary school, male teachers are over-represented in the sample. This is due to the usual trend of male teachers teaching more often in the last two grades of primary school from which our sample is drawn. Taking into account all six grades in primary school, students are exposed to about 50% male and 50% female teachers.

The teachers were asked to complete the students' behaviour rating scales and to evaluate their academic performance. In elementary schools, the teachers usually teach most of the subjects, with the exception sometimes of physical education, music and art. In secondary schools, the teachers who were asked to complete the questionnaires were the 'class teachers', who were in charge of the specific classes of our sample and they usually have many more opportunities than other teachers in the same class to interact with the students and to know them better (i.e. class meetings, excursions etc.). They were language teachers (philologists,  $N = 14$ , 46.7%), mathematics teachers ( $N = 6$ , 20%) and teachers with other specialisations (science, etc.,  $N = 10$ , 33.3%). The language teachers (philologists) usually teach many subjects (i.e. ancient Greek, modern Greek, history, political science etc.). The mathematics teachers usually teach

various subjects as well (i.e. mathematics, geometry, geography etc.). Male and female teachers were satisfactorily distributed over the school subjects as well as over the different grade levels within school type.

### *Instruments and procedures*

The instruments<sup>2</sup> of the study were used for the first time in Greece and were analysed for their psychometric features, taking into consideration the distribution of single items and combined scores. The classical factor solution method followed by varimax rotation was used for the factor analysis of the instruments<sup>3</sup> and indices and scales to be used for group comparisons were determined. Missing cases in this phase of data analysis were excluded either listwise or pairwise. Reliabilities of scales were computed using Cronbach's alpha ( $\alpha$ ) coefficient.

*Teaching rating:* Teachers completed a revised and translated version of the Pupil Behaviour Rating Scale (PBRS, Lambert & Bower, 1962), which consists of 11 attributes (school-related behaviour; 5-point Likert-type scale), for each student in every class. Three factors were extracted by the factor analysis of the 11 variables in the study, which are similar to the factors found in American research and explain 75.4% and 70.7% of the variance for our elementary and secondary school samples respectively (Hatzichristou & Hopf, 1991, 1992b, 1993). Factor 1 consists of the items relevant to successful learning (difficulty in following directions, easily distracted, doesn't like school, difficulty in learning) and is called Classroom Adaptation (elementary school:  $\alpha = .91$ , secondary school:  $\alpha = .92$ ). Factor 2 consists of the items assessing interpersonal and social skills (quarrels often, immature responses, dangerous behaviour, disobedient) and is called Interpersonal Behaviour (elementary school:  $\alpha = .79$ , secondary school:  $\alpha = .86$ ). Factor 3 consists of the items assessing intrapersonal and psychological factors (shy/isolated, unhappy, sick when problems) and is called Intrapersonal Behaviour (elementary school:  $\alpha = .71$ , secondary school:  $\alpha = .71$ ).

*Achievement<sup>4</sup>:* Elementary school teachers were asked to evaluate their students' general school performance on a scale of 1 (poor) to 4 (excellent). Achievement data (teacher grades: grade point average) on language, mathematics and history courses from the end of the academic year were also obtained from school records (elementary school: grades A, B, C – secondary schools: grades 1–20: 10 = pass grade, 20 = excellent).

*Peer nomination assessment:* The students in each classroom were asked to fill out a questionnaire consisting of seven behavioural questions. They were asked to name two classmates who best fit each of these descriptions (liked by peers and helps peers, leader, tries to be teacher's favourite, quarrels with peers, gets into trouble with teacher, snobbish and arrogant, shy and sensitive) based on peer perceptual correlates of sociometric status and behavioural profiles (Coie, Dodge & Coppotelli, 1982). The total number of first-choice nominations<sup>5</sup> received by each student for each behavioural description was standardised within each classroom. The factor analysis yielded three factors: for the elementary school group: Factor 1 – Popular/Prosocial Behaviour, ( $\alpha = .66$ , items with highest loadings: liked by peers/helps peers, leader, tries to behave in a proper way to gain the teacher's approval), Factor 2 – Antisocial/Aggressive Behaviour ( $\alpha = .67$ , items: quarrels often with students, gets into trouble with teacher, snobbish/arrogant), and Factor 3 – Introverted Behaviour (shy/sensitive) (the factors explain

66.6% of the variance). For the secondary school group: Factor 1 – Aggressive Behaviour ( $\alpha = .75$ , items with highest loadings: quarrels often with students and gets into trouble with teacher), Factor 2 – Popular/Prosocial Behaviour ( $\alpha = .60$ , items: leader, liked by peers/helps peers), Factor 3 – Non-Accepted Behaviour ( $\alpha = .67$ , items: snobbish/arrogant, tries to behave in a proper way to gain the teacher's approval, shy/sensitive) (the factors explain 67.7% of the variance) (Hatzichristou & Hopf, 1992a, 1996).

*Self-rating:* Students also completed a translated version of the Self-Description Questionnaire<sup>6</sup> (SDQ) (5-point Likert-type scale). The factor analysis of SDQ I for elementary school pupils (71 items, Marsh, Parker & Smith, 1983) yielded eight factors in our primary school sample, which explain 46.8% of the variance (Hatzichristou & Hopf, 1992c). The eight factors were labelled as follows: F1 – Mathematics ( $\alpha = .91$ ), F2 – Physical Appearance – Self-Concept ( $\alpha = .88$ ), F3 – Interest in Learning and School Subjects ( $\alpha = .87$ ), F4 – Physical Abilities/Sports ( $\alpha = .81$ ), F5 – School Performance – Self-Concept ( $\alpha = .78$ ), F6 – Learning Ability ( $\alpha = .80$ ), F7 – Relationships with Parents ( $\alpha = .64$ ), F8 – Relationships with Peers ( $\alpha = .70$ ). The SDQ II for secondary school students (Marsh & Barnes, 1982; Marsh, Parker & Barnes, 1985) consisted of 102 items (5-point Likert-type scale). The factor analysis yielded 10 factors in our secondary school sample, which explain 42.9% of the variance (Hatzichristou & Hopf, 1992c). The 10 factors were labelled as follows: F1 – Physical Abilities ( $\alpha = .91$ ), F2 – School Achievement – Verbal Competence ( $\alpha = .85$ ), F3 – Physical Appearance – Self-Concept ( $\alpha = .86$ ), F4 – Mathematics ( $\alpha = .89$ ), F5 – Relations with Opposite Sex Peers ( $\alpha = .82$ ), F6 – General Self ( $\alpha = .73$ ), F7 – Relations with Parents ( $\alpha = .75$ ), F8 – Emotional Stability ( $\alpha = .77$ ), F9 – Academic Motivation ( $\alpha = .77$ ), F10 – Relations with Same Sex Peers ( $\alpha = .67$ ).

## Results

Gender differences were assessed by multivariate analyses of variance (using Wilks' procedure), computed separately for the variables within each data source (teacher, achievement, peer, self) for each age group. Factor scores were used for teacher, peer, and self-ratings. Subsequent unbalanced univariate ANOVAs (for unequal cell sizes) within each data set were computed. Teacher gender main effects were explored, followed by student gender, since relevant Greek data are not available. The interactions between teacher gender and various independent variables were examined for both age groups. The following independent variables were used in the analysis: student gender and achievement, grade, teacher specialisation (philology, mathematics; only in secondary school). Only significant results are reported. Main effects are interpreted only when the interaction effects do not override the main effects. Three-way-interactions between teacher gender and student gender and the respective third independent variable were checked in order to detect possible interactions between the genders. No significant effects were found.



### *Elementary school*

#### *Teacher rating and achievement*

The multivariate analysis of the three teacher rating variables yielded a significant multivariate effect for teacher gender. Subsequent ANOVAs showed significant main effects of the Classroom Adaptation (TF1) and Intrapersonal Behaviour (TF3) factors. Female teachers were found to evaluate more positively student behaviour as compared to their male colleagues. Students of female teachers had significantly better grades in language and history (Table 1).

The multivariate analysis of the three teacher rating variables yielded a significant multivariate effect for student gender. Subsequent ANOVAs showed significant main effects of all factors: boys had significantly more difficulties than girls in Classroom Adaptation (TF1) and Interpersonal Behaviour (TF2), while girls had more difficulties than boys in Intrapersonal Behaviour (TF3). A significant multivariate effect for student gender was also observed concerning the four achievement variables. Boys were evaluated as having lower general school performance and lower achievement in language as compared to girls (Table 1). No differences were found between boys and girls in history or mathematics achievement.

When the interactions between teacher gender and student gender for the teacher rating factors were examined, a significant interaction effect was found for the Interpersonal Behaviour factor,  $F(1, 1008) = 3.89, p < .049$ . The interaction showed that there is no differentiation between male and female teachers' evaluation of female students' interpersonal behaviour, while male teachers evaluated male students as having more frequent interpersonal behaviour problems in comparison to their female colleagues.

The interaction between teacher gender and students' general school performance was found to be significant for the Classroom Adaptation factor,  $F(3, 1004) = 9.93, p < .001$ . The difference between male and female teachers' evaluation of classroom adaptation was related only to the adaptation of students with average achievement, not to the extreme cases (either low or very high achievement). Male teachers evaluated these average students as having more problems. Significant interaction effects for the Intrapersonal Behaviour factor were further found between teacher gender and general school performance,  $F(3, 1004) = 8.81, p < .001$ , language,  $F(2, 1006) = 6.22, p < .002$ , and mathematics achievement,  $F(2, 1006) = 3.14, p < .044$ . The interaction showed that only female teachers reported frequent intrapersonal problems, and only for the low achieving students.

#### *Peer nominations*

No significant teacher gender main effects were found for the peer rating factors.

A significant multivariate effect for student gender was observed concerning the three peer rating factors. In the univariate analyses, peers evaluated girls as exhibiting more frequently prosocial behaviour patterns (PF1), but also intrapersonal difficulties (PF3), while boys as exhibiting more frequently aggressive behaviour (PF2) (Table 1).

Significant interaction effects for the Introverted Behaviour factor were found between teacher gender and language achievement,  $F(2, 1006) = 4.38, p < .013$ , and mathematics achievement  $F(2, 1006) = 2.93, p < .054$ . Low achieving students were

**Table 1.** Elementary school: MANOVA and ANOVA effects<sup>a)</sup> and means for teacher, peer, and self-rating factor scores and achievement variables

	TEACHER			STUDENT		
	MALE	FEMALE	F	MALE	FEMALE	F
<b>Teacher rating</b>						
MANOVA (d.f. = 3, 1008)			16.21**			47.21**
TF1 – Classroom Adaptation	-.088	.413	38.09**	-.135	.129	18.15**
TF2 – Interpersonal Behaviour	-.019	.132	3.36	-.298	.307	102.82**
TF3 – Intrapersonal Behaviour	-.034	.173	6.20*	.119	-.114	13.79**
<b>Achievement</b>						
MANOVA (d.f. = 4, 1007)			2.23			7.77**
General school performance#	2.86	3.01	3.70	2.79	2.99	11.14**
Language##	1.65	1.56	5.01*	1.68	1.59	8.26**
History##	1.55	1.43	8.27**	1.56	1.50	3.16
Mathematics##	1.69	1.62	2.89	1.67	1.68	.075
<b>Peer rating</b>						
MANOVA (d.f. = 3, 1008)			.049			18.59**
PF1 – Popular – Prosocial Behaviour	.000	.002	.001	-.107	.106	11.58**
PF2 – Antisocial/Aggressive Behaviour	.002	-.010	.021	.116	-.114	13.49**
PF3 – Introverted Behaviour	-.005	.024	.124	-.168	.166	29.03**
<b>Self rating###</b>						
MANOVA (d.f. = 8, 1003)			2.23*			29.74**
SF1 – Mathematics	-.007	.035	.25	.068	-.067	4.54*
SF2 – Physical Appearance – Self – Concept	-.028	.132	3.83*	.090	-.089	7.96**
SF3 – Interest in Learning and School Subjects	.017	-.083	1.42	-.173	.169	29.61**
SF4 – Physical Abilities/Sports	.004	-.019	.07	.386	-.380	168.23**
SF5 – School Performance – Self – Concept	.041	-.195	7.84**	.025	-.025	.61
SF6 – Learning Ability	-.030	.144	4.25*	-.021	.021	.43
SF7 – Relationships with Parents	.000	-.001	.00	-.041	.040	1.63
SF8 – Relationships with Peers	.001	-.003	.00	.076	-.075	5.62*

# Scale: 1 = poor, to 4 = excellent

## Grades: 1 = A, 2 = B, 3 = C

### Except Factor 5, items of the other factors have positive loadings

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

a) Univariate d.f. = 1, 1010

evaluated by their peers as having intrapersonal behaviour problems in classes of female teachers.

### *Self-rating*

A significant multivariate effect for teacher gender and significant univariate effects for three factors were found. Students perceived themselves more positively in classes of female teachers regarding the following domains: physical appearance – self-concept (SF2), school performance – self-concept (SF5), and learning ability – self-concept (SF6) (Table 1).

A significant multivariate effect for student gender was observed, and significant differences between male and female students were found regarding five out of the eight self-rating factors. Boys perceived themselves as having higher mathematics achievement (SF1), better physical appearance (SF2), better physical abilities (SF4) and better peer relationships (SF8) than girls. Girls expressed a higher interest in learning and school subjects (SF3) (Table 1).

Significant interaction effects for the Relationships with Parents factor were found between teacher gender and students' general school performance  $F(3, 1004) = 3.15$ ,  $p < .024$ , language,  $F(2, 1006) = 6.15$ ,  $p < .002$ , and mathematics achievement,  $F(2, 1006) = 5.29$ ,  $p < .005$ . Low achieving students reported more problems in their relationships with their parents in classes of female teachers.

The interaction between teacher gender and language achievement was found to be significant for the Physical Abilities factor,  $F(2, 1006) = 3.10$ ,  $p < .046$ . Furthermore, the interaction between teacher gender and mathematics achievement was found to be significant for the Peer Relationships factor,  $F(2, 1006) = 3.10$ ,  $p < .045$ . Low achievers in classes of female teachers perceived themselves as having more problems in physical abilities and peer relationships.

### *Secondary school*

#### *Teacher rating and achievement*

Regarding teacher gender effects, male teachers were found to evaluate more positively students' Interpersonal Behaviour (TF2) (Table 2).

The multivariate analysis of the three teacher rating variables resulted in a significant multivariate effect for student gender. Similarly with elementary school, teachers assessed boys as having more problems than girls in Classroom Adaptation (TF1) and Interpersonal Behaviour (TF2). No significant difference was found for the Intrapersonal Behaviour factor. Furthermore, boys had lower general school performance and lower achievement than girls in all subjects assessed (language, history, mathematics) with a significant multivariate effect (Table 2).

A significant interaction effect between teacher gender and student gender was found for the Intrapersonal Behaviour factor  $F(1, 816) = 4.93$ ,  $p < .027$ . Male teachers assessed boys as having more frequent intrapersonal problems, while the opposite was true for the girls. Therefore, students of the opposite sex were evaluated more positively by their teachers regarding intrapersonal behavioural patterns.

Significant interaction effects for the Classroom Adaptation factor were found between teacher gender and general school performance,  $F(3, 750) = 3.78$ ,  $p < .010$ , and between teacher gender and language,  $F(2, 814) = 5.44$ ,  $p < .005$ , and history

**Table 2.** Secondary school: MANOVA and ANOVA effects<sup>a</sup> and means for teacher, peer, and self-rating factor scores and achievement variables

	TEACHER			STUDENT		
	MALE	FEMALE	F	MALE	FEMALE	F
<b>Teacher rating</b>						
MANOVA (d.f. = 3, 816)			1.95			28.60**
TF1 – Classroom Adaptation	.04	-.01	.44	-.16	.19	26.24**
TF2 – Interpersonal Behaviour	.14	-.04	5.36*	-.22	.27	55.10**
TF3 – Intrapersonal Behaviour	.03	.01	.09	.05	-.02	.95
<b>Achievement</b>						
MANOVA (d.f. = 4, 753)			1.54			11.29**
General school performance#	2.61	2.49	2.01	2.34	2.73	24.87**
Language##	13.99	14.02	.02	13.29	14.76	44.19**
History##	15.09	15.13	.02	14.58	15.68	21.18**
Mathematics##	14.05	13.99	.05	13.49	14.56	19.97**
<b>Peer rating</b>						
MANOVA (d.f. = 3, 816)			.23			10.86**
PF1 – Aggressive Behaviour	.03	-.02	.42	.16	-.17	23.15**
PF2 – Popular/Prosocial Behaviour	-.02	.01	.20	-.10	.11	8.74**
PF3 – Non-Accepted Behaviour	-.02	.01	.08	-.02	.02	.24
<b>Self rating</b>						
MANOVA (d.f. = 10, 809)			2.89**			17.05**
SF1 – Physical Abilities	-.09	.04	2.94	.21	-.23	39.56**
SF2 – School Achievement – Verbal Competence###	.03	-.01	.34	.10	-.11	8.55**
SF3 – Physical Appearance – Self-Concept	-.10	.05	3.96*	.13	-.13	14.23**
SF4 – Mathematics###	-.05	.02	.74	-.14	.15	16.96**
SF5 – Relations with Opposite Sex Peers###	-.11	.05	4.22**	.00	-.00	.01
SF6 – General Self###	.01	-.01	.08	.03	-.04	1.09
SF7 – Relationships with Parents	-.18	.08	11.25**	.13	-.14	15.17**
SF8 – Emotional Stability###	.02	-.01	.15	-.14	.15	15.97**
SF9 – Academic Motivation	-.09	.04	2.96	-.21	.21	35.45**
SF10 – Relations with Same Sex Peers	-.07	.04	1.88	.00	.00	.00

# Scale: 1 = poor, to 4 = excellent

## Achievement: Grades: 0–20, 10 = passing grade, 20 = excellent

### Items of these factors (F2, F4, F5, F6, F8) have negative loadings

<sup>a</sup> Univariate d.f. = 1, 818; for achievement variables d.f. = 1,756\*  $p < .05$ \*\*  $p < .01$

achievement,  $F(2, 814) = 4.41, p < .012$ . Female teachers evaluated low achieving students as having fewer classroom adaptation problems than male teachers. The interaction between teacher gender and language achievement was further found to be significant for the Intrapersonal Behaviour factor,  $F(2, 814) = 10.71, p < .001$ . There was again a differentiation for low achieving students being evaluated by female teachers as having less intrapersonal problems.

The interactions between teacher gender and teacher specialisation (language and mathematics teachers) were found to be significant for the Interpersonal Behaviour factor,  $F(1, 558) = 7.98, p < .005$ , and the Intrapersonal Behaviour factor,  $F(1, 558) = 15.37, p < .001$ . The interactions showed that female mathematics teachers evaluated students as having the most frequent interpersonal and intrapersonal behaviour difficulties.

### *Peer nominations*

Based on peer evaluation, no main effects and interactions were found as far as teacher gender was concerned. For student gender, a multivariate effect was observed. Boys exhibited more frequently than girls aggressive behaviour (PF1), while girls exhibited more frequently prosocial behaviour (PF2) (Table 2).

### *Self-rating*

When teacher gender effects were examined, we found a significant multivariate effect. Subsequent ANOVAs showed significant main effects for three self-rating factors: in classes of female teachers students exhibited a more positive physical appearance self-concept (SF3) and they showed more positive relationships with parents (SF7), while their opposite sex peer relations were less favourable than in classes of male teachers (SF5) (Table 2).

A significant multivariate effect for student gender was also observed for the 10 self-rating factors. Significant differences between male and female students were found regarding seven factors. Boys perceived themselves as having better physical abilities (SF1) and a better physical appearance (SF3) self-concept than girls. Boys further expressed a higher emotional stability (SF8) than girls and perceived themselves as having better relations with their parents (SF7). Regarding school performance, boys mentioned having a higher achievement in mathematics (SF4) and a lower school achievement-verbal competence (SF2) in comparison to girls, while girls expressed a higher academic motivation (SF9) (Table 2).

Significant interaction effects between teacher gender and student gender were found for the General Self factor,  $F(1, 816) = 4.74, p < .030$ , and the Same Sex Peer Relationships factor,  $F(1, 816) = 5.92, p < .015$ . Male students reported a low general self-concept in classes of male teacher, while girls have a very positive general self-concept. Relationships with same sex peers for adolescent boys were positive when the class teacher was female and negative with male teachers. The opposite was true for adolescent girls, but the differences were less pronounced.

The interaction between teacher gender and students' language,  $F(2, 814) = 4.53, p < .011$ , and mathematics achievement,  $F(2, 814) = 5.26, p < .005$ , was found to be significant for the Physical Abilities factor (SF1). For female teachers, the physical abilities self-concept was independent of achievement, while a low self-concept in high

achievers was observed with male teachers. The interaction between teacher gender and students' language achievement was also found to be significant for the General Self factor (SF6),  $F(2,814) = 3.56, p < .029$ . The general self, for female teachers, is correlated with language achievement, low achievers having a negative general self-concept.

Considering the interactions between teacher gender and age, students of female class teachers showed less variation between the age groups and higher scores in most age groups than students of male teachers as far as their physical abilities self-concept (SF1),  $F(3, 777) = 3.21, p < .023$ , and their relationship to same sex peers (SF10),  $F(3, 777) = 2.99, p < .030$ , were concerned.

### Discussion

The goal of the study was to achieve a broad examination of gender-related differences in Greek classrooms by assessing various domains of children's functioning in school and by combining the perspectives of teachers, peers and self in childhood and adolescence. It was hypothesised that teacher-student interaction patterns would be influenced by teacher gender not so much as a main effect but as interaction effects involving variables such as student gender, student achievement, grade, and teacher specialisation. The discussion of the findings will be mainly focused on teacher gender since this was the variable of primary interest in this paper. Student gender findings will be only considered in detail when necessary for a better understanding of the teacher gender effects.

Both in elementary (grades 5 and 6) and secondary school (grades 7-10), boys were evaluated by their *teachers* as exhibiting more learning and interpersonal behaviour difficulties than girls and girls as having more intrapersonal difficulties (in elementary school only). In general, in agreement with relevant findings (Rutter, Cox, Tupling, Berger & Yule, 1975; Trites, Blouin & Laprade, 1982; Stake & Katz, 1982), teachers' evaluations favoured girls over boys, since girls' behavioural patterns and characteristics seem to be more congruent with the student role and teacher expectations.

Several significant differences were found in the teachers' perspectives according to their gender. In elementary school, female teachers evaluated children's adjustment as less problematic regarding various aspects of their academic and psychosocial functioning (with the exception of children with achievement and peer relationships problems). There was no differentiation between male and female teachers' evaluation of girls' interpersonal behaviour, while female teachers evaluated more positively boys' interpersonal behaviour as compared to their male colleagues. It seems possible that female educators tend to be more gender-stereotypic in their attitudes and expectations of children's behaviour and to adopt more the stereotypic role of females, thus being caring, supportive and maternal figures and more accepting of children's misbehaviour.

In secondary school, while female teachers were more accepting of the problems of poor students, a further gender differentiation in their perceptions of children's psychosocial competence was found: male teachers assessed children's interpersonal behaviour as less problematic than their female colleagues. This is in agreement with previous research findings showing a trend of female teachers to be more sensitive to

externalising behaviour problems (Ritter, 1989) and to give more behavioural warnings in the classroom, especially to the male students (Jones & Wheatley, 1990). It seems possible that male teachers usually could control students' aggressive, disobedient and disruptive behavioural patterns more easily especially in adolescence (the opposite was true with primary school boys). It could also be possible that the students going through the stages of adolescence do exhibit more problems in the classes with female teachers, possibly believing that female teachers are more tolerant with these patterns of behaviour; or the teachers could not keep their students under control without difficulty.

It is more difficult to interpret the finding that secondary school teachers evaluated the intrapersonal behaviour of students of the opposite sex as less problematic. Several explanations might be plausible: the teachers could have more private contacts with same-sex students and could assess their behaviour more objectively, or the teachers being identified with their own sex possibly tend to project onto their same-sex students these difficulties, or, finally, students exhibit less intrapersonal difficulties in the classes with opposite-sex teachers, trying to develop at the same time their identity in heterosexual relationships. The last explanation is actually in congruence with (Lawrenz's (1987) finding that students perceive classroom psychosocial environments more favourably when the opposite genders (teacher-student) are combined.

In secondary school, teacher specialisation (subject matter) was another variable affecting their evaluation. Philologists have been found to assess students' psychosocial behaviour patterns more positively than mathematics teachers (Hatzichristou & Hopf, 1991). These findings might be explained by the greater interest of students in the subject matter philologists are teaching (history, literature, political science etc.) as opposed to mathematics. Furthermore, findings of relevant studies have shown that male teachers at the secondary level tend to have a more authoritarian and task-oriented teaching style in the classroom, while female teachers tend to have a more supportive, expressive and less task-oriented manner (Good, Sikes & Brophy, 1973). Concerning subject matter fields, due to the specific subject area, mathematics classes have been reported to be more focused on content mastery and to extract a more task-oriented teaching style. The finding that female mathematics teachers in our study are reporting students' problems most frequently is possibly related to the fact that they have to teach a subject matter which requires a more strictly task-oriented teaching style which is traditionally associated with the opposite sex. No further interactions between teacher gender and teacher specialisation were found.

Our findings extend results of previous studies by showing several significant teacher gender differences in their assessment of students' psychosocial and academic competence. These differences in teachers' evaluations mainly reflect the traditional gender-role stereotyping. It seems that both male and female Greek educators hold stereotypic views of adult roles of men and women (which reflect the societal norms) and they are traditional in their sex-role orientations. Future studies in the Greek schools based on observational methodologies should explore the teacher-gender differences in behaviour, teaching style, and treatment of students in the classroom and could help us understand better and clarify the differences found in the present exploratory study. Based on our numerous informal observations, though, in the Greek schools, it seems that the above described teacher-gender differences in their students'

evaluation reflect their actual behaviour and teaching style in the classroom. Greek teachers tend to reinforce gender-stereotypic behaviour through several ways: e.g. different ways of punishment for boys and girls, evaluative comments distinct for boys and girls and the separation of students into two groups according to gender in the classroom or yard.

Peer evaluations were in agreement with teachers' evaluation. Teacher gender, however, was not found to differentiate peer perceptions with the only exception of poor students exhibiting more intrapersonal difficulties in female-teacher elementary classrooms. Thus, we find children from a young age to have gender-stereotypic perceptions of their peer behaviour irrespective of the teacher gender reflecting their adoption of traditional values and norms in the Greek families and society.

While peer evaluations showed nearly no effect of teacher gender, various domains of children's *self-concept* at both age groups were found to be different in classes of female and male teachers. Adolescents' general and peer relationships self-concepts were more positive in classes of teachers of the opposite sex. This finding is in agreement with teachers' perceptions, as we have described before. Furthermore, students of female teachers have a more positive self-concept regarding physical appearance (both levels), school performance-learning (elementary level) and parent relationships (secondary level), but poor students report more problems in physical abilities, parent and peer relationships (elementary level) and negative general self-concept (secondary level). Thus, it seems that even though female teachers are more accepting of children's learning and behaviour problems (irrespective of age and grade) as compared to male teachers, they probably emphasise more the importance of academic achievement and they exert a greater pressure on children to do well in school, which is reflected in the low achievers' self-concept. This fits the observation that there is a tradition of the mothers in Greek families – as opposed to the fathers – to be responsible for and to monitor the school careers of the children. It should also be pointed out that class teachers in the Greek secondary schools are not expected to exhibit elements of 'pastoral care' in a way it would be true for form tutors in British schools.

Present findings based on the perceptions of teachers, peers and children themselves reflect the traditional gender-role expectations and orientations in the educational and societal context. As expected, due to the greater gender-role differentiation of the Greek society as compared to other countries, strong gender-related differences were found in every aspect of children's functioning in schools. The perceptions of all raters led to similar conclusions regarding these differences. Yet, each data set provided a means for interpreting and validating the other, and the combination of all these sources provided useful information for a deeper understanding of the complexity of gender-related differences in the school setting. The several significant teacher gender related findings indicate the need to use teacher gender as a relevant variable in future research, especially in cultural and educational contexts with greater gender-role differentiation.

Henning-Stout & Conoley (1992) have stated that 'force of gender as a subtle and deeply engrained cognitive filter on our perceptions represents a threat to our being able to respond to children's individual needs' (p. 130). Present findings help in our understanding of gender-related influences in Greek schools and could be the basis for



increasing educators' awareness and knowledge of the various ways that gender-role stereotypes affect their own perceptions, interactions, and expectations, as well as children's functioning and development. Relevant findings, and further discussion of ways that educators in their daily practice can help children overcome rigid concepts of gender roles and acquire more flexible gender-role beliefs and behaviour, should be part of teacher training programmes and seminars for teachers and administrators (and parents). Changes in the school context could further help in promoting sex-equity in the broader society.

## NOTES

<sup>1</sup> For simplicity, the data describing sex differences (male and female teachers interacting with male and female students) are referred as gender differences reflecting gender role behaviours acquired through social learning mechanisms.

<sup>2</sup> A detailed description of the adaptation and analyses of the instruments are included in previous papers (Hatzichristou & Hopf 1991, 1992a, 1992b, 1992c, 1993, 1995). The distribution of the data reported in these publications can be considered as normative data for the respective age groups and instruments in Greece. The adaptation procedure included translations by experienced language specialists, back-translation, and validation studies (see Hopf & Hatzichristou, 1994, p. 167).

<sup>3</sup> Exploratory factor analyses of the instruments had to be performed in order to establish the meaning of the items and the scales because of the substantial deviations of the Greek school system and the societal context from the settings in which the instruments originally have been developed. Nevertheless, it was decided not to develop entirely new instruments for the Greek situation but to use the well-established and validated questionnaires from the anglophone countries in order to relate the findings at least tentatively to previous findings.

<sup>4</sup> Achievement data are based on teacher grades. Standardised achievement tests do not exist in the Greek educational system.

<sup>5</sup> The particular items were selected based on their relevance to the Greek educational context. Only the first choices were further used because the instruction of the questionnaire did not force the students to name more than one peer in each question. This was done, after pre-testing, in order not to endanger the willingness of the students to participate in the study.

<sup>6</sup> Concerning the self-rating, the instruments used differ from the English versions of the questionnaires (of 1982/1983) in some aspects. The main difference stems from the fact that eight items of the SDQ II for secondary school students, constituting the so-called honesty scale, had to be omitted so as not to risk losing the co-operation of students: during the pretests of the translated scale we realised that these items were perceived with reluctance by the students. Comparisons with research based on the current English versions of the instruments should be interpreted with caution.

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