

Effects of motivational climate, type of school and gender on students' moral competences in their daily life and physical education

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Abstract

Introduction. The investigation of moral issues in physical education (PE) has received considerable attention over the last two decades. Moral competence is regarded as one of the fundamental learning goals in contemporary PE curriculum. **Aim of Study.** The goals of the present study were: a) to determine effects of motivational climate on students' moral competence in conjunction with the school type and student's gender, in everyday life and PE; and b) to examine possible relations among the developmental stages of moral competence in daily life and during PE. **Material and Methods.** The study sample comprised 428 high school students aged 12 to 15 years. Three questionnaires were administered: a) Moral Judgment Test, b) Moral Judgment Test in Physical Education, c) Students' Perceptions of School/Classroom Goal Questionnaire. **Results.** The ANOVA revealed: a) a significant interaction effect of gender and motivational climate together on students' moral competence both in their daily life and during physical education; and b) a significant interaction effect of gender and school type together on students' moral competence in their daily life. No significant effects of motivational climate, gender and school type separately were found. The analysis indicated positive correlations among all six moral stages in daily life and the corresponding moral stages in physical education settings. **Conclusions.** The results show that the factors of gender and motivational climate, and gender in combination with school type are more significant to moral competence than if considered separately. Another notable finding of this study is a strong relationship between moral stages in daily life and those during physical education. Further research that will consider key factors of moral development and school intervention programs targeting moral competences is needed.

KEYWORDS: moral competence, motivational climate, school, art school.

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What is already known on this topic?

Moral development constitutes one of the educational goals of PE curriculum. Physical education, a less competitive environment than sports, is considered a rich context for promoting moral competence. Researchers have reported a divergence between morality in sports and everyday life. Although this approach highlights a distinction between the developmental stages of moral competence in everyday life and sports, recently, a positive relationship among morality in PE and daily life has been found. In terms of morality, empirical evidence have indicated that perceived motivational climate is an influential factor since researchers have reported that children who perceived a mastery motivational climate during class exhibited higher levels of morality. As far as gender is concerned, recent studies support that gender differences are a considerable factor in matters of morality. However available data on the effect of school type on moral competence remain limited.

Introduction

The aspect of morality in physical education has become the subject of a number of empirical studies over the past three decades [1]. It is now considered schools' obligation to support children's moral, social and emotional skills, along with specialized knowledge and learning [2]. In many countries, including Greece, students' moral development constitutes one of educational goals of the PE curriculum at all school levels [3]. More specifically, setting learning goals that aim to cultivate psychosocial and moral virtues is a common goal of the PE curriculum in all national high schools, irrespective of their type (ordinary¹ or art-oriented²). However, the lack of teachers' training in issues of ethics [2], and the structure of the Greek educational system itself have contributed to the fact that these goals play merely a secondary role in PE class planning.

According to Shields and Bredemeier [4], PE is the most fertile ground for children's socio-moral and character development compared to other physical activities and competitive sports. The positive influence of PE on students' moral development has become a topic of discussions and disagreements within the education community. On the one hand, supporters of this view believe that PE may contribute to moral development through long-term training and intervention [4], while opponents claim that PE may debilitate the students' moral development [5].

Apparently, the appropriateness and effectiveness of PE in moral education can be proven scientifically through comprehensive intervention programs that help initiate alterations in various aspects of morality such as a) enhancement of sportsmanship [6], b) demonstration of positive aspects of fair play [1], c) promotion of moral reasoning maturity [7], d) enhancement of pro-social behaviors [8], and e) improvement of moral judgment, intention and behavior [1].

One of the most significant theories of moral development is Lawrence Kohlberg's theory of stages of moral development according to which moral competence is defined as the capacity to make decisions and judgments which are moral (i.e. based on internal principles), and to act in accordance with such judgments [9]. Kohlberg outlined a six-stage developmental

progression of moral competence which is classified into three general levels of morality. Kohlberg's stages imply qualitatively different modes of thinking and problem solving at each stage.

Remarkably, people in their daily lives tend to use different interpretation and approach mechanisms when dealing with moral dilemmas compared to sports settings [10]. Researchers have used the term 'bracketed morality', in order to express the divergence between morality in sports and daily life. Moreover, empirical evidence indicated that moral competence in PE varies, depending on the psychosocial environment of athletic activity or the motivational climate in which a person's moral functioning takes place [11, 12, 13, 14]. According to Ames [15], the motivational climate is defined as the psychosocial environment in which personal orientations of individual goals are created, developed and affected, based on the quality and quantity of group interactions. In other words, the motivational climate created by factors such as the 'significant others' and the perceived educational motivational climate during exercise could determine children's positive or negative moral behavior [15].

By adopting the term 'motivational climate' in order to describe the goal structure emphasized within the achievement context, researchers refer to two dimensions of motivational climate in sport and physical activity: mastery and performance [15]. Mastery (or task-involving) climate refers to structures that support effort, cooperation, and an emphasis on learning and task mastery. By contrast, performance (or ego-involving) climate refers to situations which foster normative comparisons, intra-team competition, and a punitive approach by teachers and coaches to mistakes committed by participants.

There has been evidence of a theoretically consistent link between motivational climate and moral functioning in PE and competitive sport. Recent studies have shown that mastery motivational climate is positively connected to: a) mature moral competence [13, 14], b) sportpersonship and fair play orientations [11, 14, 16, 17], and c) better indicators of prosocial behaviors [18]. Conversely, perceived ego-involving climate has been linked to low levels of moral reasoning [7, 14], positive prediction of antisocial judgments and behaviors [18], low sportpersonship orientation [12], low levels of moral judgment and intention [12], approval of cheating and aggressive behaviors [19], and deterioration of fair play dimensions of morality [4, 16].

¹ All state secondary schools which develop students' cognitive, emotional and psychomotor skills, that adhere to the ordinary class curriculum of the Greek Ministry of Education.

² Public schools of secondary education operating since 2003, where students display talents and cultivate skills in three fields of artistic development: dancing, fine arts, and drama.

Finally, researchers had also addressed the issue of gender differences in moral competence. Based on previous literature [12, 17, 18, 19, 20], there is a distinction in moral functioning between the two genders, with girls displaying higher levels of moral functioning than boys. However, other studies supported that both genders display similar levels of moral maturity and, therefore, neither is placed first in the matters of moral functioning [7, 10, 21].

Aim of Study

Based on the literature reviewed above, the goal of the present study was to determine the effect of motivational climate, combined with the school type and students' gender, on their moral competence, both in their daily life and in PE classes. In addition, the relationship between the developmental stages of moral competence in everyday life and PE settings was also going to be investigated.

Material and Methods

Subjects

The sample comprised 428 students attending regular or art-oriented high schools in three areas in Greece: Athens, Thessaloniki and Crete. The students were between 12 and 15 years old (mean = 13.3 years, $SD = 0.966$), of which 181 were boys (42.3%) and 247 were girls (57.7%). More specifically, the sample comprised 319 1st- and 2nd-grade regular high school students (154 boys and 165 girls) and 109 1st- and 2nd-grade students of art-oriented high schools (27 boys and 82 girls).

Study Procedure

The study was conducted with the permission of the Research, Documentation and Educational Technology Department of the Educational Institute of the Greek Ministry of Education. Consent was obtained from the School Director and the Parents and Teachers Association Board to gain access to the schools and engage teachers and students in the study. The questionnaires were then distributed to the students in the beginning of the first trimester of the school year. The students were requested to complete all questionnaire items within one class (45 minutes) under the supervision of the main researcher (whenever possible) or a class teacher. Students were informed that a) the completion of the questionnaires would be anonymous and confidential;

b) the data would be used exclusively for the research purpose; c) completing the questionnaire would not be a compulsory requirement and would not affect their grades; d) there were no right or wrong answers; and e) each student should work alone.

Measures

Participants were asked to complete three self-report questionnaires to assess their: a) moral competence in daily life, b) moral competence in physical education, and c) perceived motivational climate. Also, data were collected about the participants' demographic characteristics such as age, gender and school type.

Moral Competence in Everyday Life

A modified Greek version [22] of the Moral Judgment Test [23] was used to assess the students' moral competence in everyday life. The MJT had been designed by Lind to measure all aspects of morality, and it is based on Kohlberg's structural-developmental theory [9].

While taking the MJT participants are confronted with two moral dilemma stories. The first story deals with workers who break into the main office of a company so as to find proof of an accusation, and the other concerns a doctor who assists a dying cancer patient upon her request to take away her own life. The respondent has to judge twelve arguments for each dilemma, six supporting the decision that the protagonist made in the story and six arguing against the protagonist's decision. Each item corresponds to one of Kohlberg's six stages of moral development. An example of an item in favor of the doctor's behavior which corresponds to the developmental Stage Four is: "Because most of his fellow doctors would presumably have done the same in a similar situation". Another example of an item against the doctor's behavior, which corresponds to Stage One, is: "Because the doctor could get himself into much trouble. They have already punished others for doing the same thing". Students give their answers on a nine-point Likert-type scale ranging from -4 ('totally disagree') to +4 ('totally agree').

The most important index computed from the MJT analysis is the C-index, which represents the person's ability to judge arguments based on their moral quality. A high C-index score represents a steady orientation in the quality of arguments when dealing with a moral dilemma, while a low C-index score defines the tendency of the respondent to be affected by what is "right"

when dealing with counterarguments, regardless of their moral quality [2]. According to Lind [2], the C-index fluctuates between 1 and 100 and is divided into four ranges: low – 1-9, medium – 10-29, high – 30-49, and very high – above 50.

Moral Competence in Physical Education

The Moral Judgment Test in Physical Education (MJT-PE) was utilized to assess the students' moral competence in PE settings [24] and it was conceived as a supplement to the original MJT. In the MJT-PE the individual is confronted with one moral dilemma-story that concerns a student's participation in a school championship game. Every participant must express whether he/she approves or disapproves twelve statements in favor of or against the prescribed behavior in the story.

Students gave their answers on a nine-point Likert-type scale ranging from -4 ('totally disagree') to +4 ('totally agree'). Each item corresponded to one of Kohlberg's six stages of moral development. An example of an item in favor of the students' behavior which corresponds to the developmental Stage One is: "Someone argued students were right because if they would lose the game, they would be probably reprimanded by their coach". Another example of an item against the students' behavior, which corresponds to Stage Six is: "Someone argued students were wrong, because only an honest win is valuable and not all is fair in love and war".

The main score – the Competence-PE index of the MJT-PE – is measured respectively to the C-Index of the original MJT.

Students' Perceptions of School/Classroom Goal Structures

The 'Perceptions of School/Classroom Goal Structures' Questionnaire was used to assess the students' perceived school/classroom goal structures [25]. It was derived from the Manual for the Patterns of Adaptive Learning Scales (PALS) of the University of Michigan, and its translation and adjustment to schools of secondary education has recently been accomplished for Greek population samples [26].

This questionnaire consisted of 11 items divided into two sub-scales assessing individuals' perceptions of school goals: a) perceived mastery school goal structure (6 items), and b) perceived school performance goal structure (5 items). An example item of perceived mastery is reflected by the statement: 'In this school it is very important to try hard', whereas an example

item of perceived school performance is reflected by the statement: 'This school is completely indifferent towards some students'. The students were asked to rate their degree of agreement for each item on a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Statistical Analysis

The statistical analysis was performed with the use of SPSS 14 software. Descriptive statistics were computed and compared for all variables. To determine the effect of motivational climate, school type and gender on moral competence in everyday life and PE, two multiple analyses of variance with three factors (motivational climate x school-type x gender) were conducted. Finally, Pearson's correlation coefficient was also utilized to investigate plausible relationships between the developmental stages of moral competence in daily life and during physical education. The level of statistical significance was set at 0.05.

Results

Descriptive statistics

Descriptive statistics were computed for all variables in the study. The means (*M*) and standard deviations (*SD*) for all participants are presented in Table 1.

The descriptive statistics revealed no statistical significant differences in moral competence in either setting – everyday life or PE – although the sample scored fairly high in moral competence in physical education ($M = 36.29$, $SD = 22.62$), and fairly mean in moral competence in everyday life ($M = 17.96$, $SD = 12.02$). Moreover, in terms of motivational climate, the data showed that the sample perceived a moderately high mastery climate ($M = 3.95$, $SD = 0.73$) and a moderate performance climate ($M = 2.76$, $SD = 0.99$).

Moral Competence and Gender

With regard to gender, the results indicated that although boys demonstrated higher levels of moral competence than girls in both daily life ($M = 18.95$, $SD = 12.75$) and PE settings ($M = 37.58$, $SD = 22.94$), this gender discrepancy was not statistically significant (Table 1). The results also revealed significant gender differences in overall mastery motivational climate ($t_{(426)} = -2.299$, $p < 0.05$) and significant gender differences in mastery motivational climate of art school students ($t_{(107)} = -2.939$, $p < 0.01$).

Table 1. Means and standard deviations of moral competence and motivational climate for each gender and school type

	Sample						Ordinary School						Art-oriented School					
	\bar{x}			SD			\bar{x}			SD			\bar{x}			SD		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
Moral Judgment Everyday Life	17.96	18.95	17.23	12.02	12.75	11.42	18.08	18.88	17.40	11.67	12.43	11.08	17.58	19.83	16.84	13.04	15.35	12.20
Moral Judgment Physical Education	36.29	37.58	35.35	22.62	22.94	22.39	37.17	37.68	36.69	22.68	22.66	22.76	33.75	37.02	32.67	22.36	24.86	21.52
Mastery Motivational Climate	3.95	3.87	4.02	0.73	0.76	0.71	3.91	3.87	3.94	0.74	0.75	0.74	4.09	3.76	4.19	0.68	0.77	0.62
Performance Motivational Climate	2.76	2.80	2.72	0.99	0.97	1.02	2.88	2.87	2.90	0.99	0.99	1.00	2.39	2.41	2.38	0.90	0.72	0.96

Effects of motivational climate, school type and gender on moral competence in physical education and everyday life

In order to investigate the effects of motivational climate, school type and gender on the students' moral competence in everyday life and during physical education, two multiple analysis of variance with three factors were conducted. The analysis revealed significant interaction effects of gender and mastery motivation climate on moral competence both in daily life [$F_{(13,102)} = 2.077, p < 0.05$] and physical education [$F_{(13,100)} = 1.848, p < 0.05$]. In addition, when gender was combined with the school type, moral competence was influenced significantly in daily life [$F_{(1,102)} = 4.391, p < 0.05$] but not in PE [$F_{(1,100)} = 0.137, p > 0.05$]. However, the interaction effect of all three factors on moral competence, both in daily life [$F_{(1,102)} = 0.131, p > 0.05$] and PE [$F_{(1,100)} = 0.108, p > 0.05$] was not significant. Nonetheless, no main effects of motivational climate, school type, and gender on moral competence separately were found.

Correlation analysis

To determine plausible relations among moral developmental stages of MJT and the correspondent stages of MJT-PE, Pearson's correlations were utilized (Table 2).

All Kohlberg's six stages of moral competence in everyday life were positively correlated with the corresponding moral stages in physical education. With regard to each moral stage, Stage Five in daily life and in PE displayed the highest positive correlation of all stages ($r_{5,5} = 0.269, p < 0.01$). Moderate positive correlations were found for Stage Three ($r_{3,3} = 0.231,$

$p < 0.01$), Stage Six ($r_{6,6} = 0.211, p < 0.01$) and Stage Two ($r_{2,2} = 0.205, p < 0.01$), respectively. Finally, a low positive correlation emerged from Stage Four ($r_{4,4} = 0.143, p < 0.01$) and Stage One ($r_{1,1} = 0.117, p < 0.05$). In fact, Stage One had the lowest positive correlation scores from all other stages. A low positive relationship was also identified between the C-index of moral competence in daily life and the C-PE index of moral competence during physical education ($r = 0.168, p < 0.01$). The results suggested that moral competence in daily life was connected positively to moral competence in PE settings.

Table 2. Pearson's correlations between moral stages

Moral Stages	MJT1	MJT2	MJT3	MJT4	MJT5	MJT6
MJT-PE1	0.117*	0.089	0.233**	0.118*	0.091	0.073
MJT-PE2	0.229**	0.205**	0.191**	0.169**	0.109*	0.058
MJT-PE3	0.131**	0.129**	0.231**	0.179**	0.186**	0.202**
MJT-PE4	0.113*	0.081	0.099*	0.143**	0.116*	0.220**
MJT-PE5	0.083	0.077	0.140**	0.164**	0.269**	0.227**
MJT-PE6	0.119*	0.121*	0.135**	0.168**	0.328**	0.211**

* $p < 0.05$, ** $p < 0.01$

Discussion

The primary purpose of the study was to investigate whether the motivational climate combined with school type and gender affected the students' moral competence both in everyday life and during physical education. A further goal was to examine plausible relations among the developmental stages of moral competence in daily life and PE settings.

With regard to the first aim, the interaction effect of all three factors together seems to have no impact on the students' moral competence in daily life as well as during physical education. This finding is quite difficult to interpret, since the above combination was investigated in the present study for the first time. Presumably, education systems with a strong mastery orientation have the ability to cultivate moral competences irrespectively of school type and students' gender. Nevertheless, further research is necessary to address this issue.

Furthermore, the results indicate that the mastery motivational climate and gender constitute an effective combination for fostering moral competence in daily life and during physical education in high school students. These results are partly in accordance with most of earlier empirical evidence, which confirms that mastery motivational climate positively affects moral competence [13, 14]. As far as gender is concerned, relevant recent studies support that gender differences are a considerable factor in matters of morality [12, 17, 18, 19, 20]. However, in the interpretation of such a considerable finding, the fact that there are no data available from previous studies makes it rather difficult. Presumably, it can be stated that the significant gender differences in mastery motivational climate, and the strong mastery orientations indicated in both school types in the present study may positively influence the interaction effect of mastery motivation climate and gender on moral competence.

Additionally, the results indicated a significant interaction effect between gender and school type on moral competence in daily life. At first glance, this statement suggests that the students' morality in daily life can be affected by the gender-school type combination. However, this finding is difficult to be interpreted as there are no previous empirical studies investigating the combination of gender and school type effect on moral competence. Despite the fact that gender is considered an important factor in terms of morality [12, 17, 18, 19, 20], the data of the present study showed that the type of school itself has no relation to moral competence [$t_{(426)} = 0.376, p > 0.05$]. Therefore, further research is needed to explore this discrepancy so as to clarify why gender unlocks its school type interaction on moral competence.

In addition, as far as the main effect of the school type on moral competence is concerned, the data in the present study showed that the type of school does not influence

moral competence in both daily life and physical education. This statement is in line with limited recent research [27] in which no main effect has been found between school type (key schools – ordinary schools) and moral competence of Chinese high school students. Besides, in support of this argument, the data of the present study showed that the differentiation of moral competence based on school type is non-significant [$t_{(426)} = 0.376, p > 0.05$]. A plausible explanation might be attributed to the similar educational level of the sample in both school types. According to Kohlberg [28], students' moral competencies can be enhanced by higher educational levels and, therefore, lack of educational opportunities can result in a regression of moral competence levels. However, students in the present study were on the same educational level and, as a result, it is not surprising to find similar levels of morality among them. This finding clearly shows that students' ability to judge the moral quality of an argument is irrespectively of the school type they attend. According to the second hypothesis of the present study, all six stages of moral development in daily life are positively correlated with the corresponding moral stages in physical education. The above relationship can be interpreted in the way that individuals tend to use similar ways of moral competence when dealing with moral dilemmas in different settings (daily life/physical education). Although these results remain in contrast with Bredemeier's claims [10] which support that morality in sports is "bracketed" from everyday life, one should take into consideration that both instruments of moral judgment are based on the same theoretical model, and that similarities were, therefore, expected. Taking into account the fact that the present study was conducted in a secondary education learning environment rather than in a competitive sport setting, it seems that the term "bracketed morality" may have no place within the school domain. Apparently, the low competitive levels present in the school environment provide a fertile ground for enhancing moral competence, better than those achieved within the sport domain [4]. Interestingly, these findings do clarify the correspondence of moral stages in daily life and PE settings.

Conclusions

The present findings underscore the important role of motivational climate, gender and school type in moral issues. Through the prism of moral competence, it is suggested that the combination of gender with

mastery motivational climate and the combination of gender with school type contribute more efficiently to altering moral cognitive competencies than each factor separately. Another notable finding of this study is the strong correspondence between moral stages in daily life and moral stages during physical education. Arguably, these conclusions underline the importance of the physical education learning environment in the development of moral competencies and highlight the urgency of implementing moral education programs in secondary education institutions.

What this study adds?

To the best of our knowledge this is the first study that has attempted to determine the effects of motivational climate, gender and school type combined on students' moral competence. The results of the present study should facilitate the understanding of the significant contribution of the gender-mastery motivational climate combination and the gender-school type combination to the enhancement of moral competence in daily life and in PE. It is Authors' hope that this study will increase the scientific interest in matters of morality as it entails more than simple education of teachers and parents about the importance of moral values. Findings suggest that mastery motivational climate, gender and school type are inadequate by themselves to cultivate moral competence, so it is advisable to concentrate on intervention efforts that focus on joint key factors in order to demonstrate high levels of morality. In addition, since there are few data available on the positive relation between morality in PE and daily life, this is the first attempt to examine the possible relation on samples of students from general and art-oriented secondary schools. The noteworthy finding is that the moral stages of moral competence in PE are in accordance with the equivalent moral stages in everyday life. Our pattern of findings underscores the relevance of the physical education learning environment to the cultivation of moral competence, and it highlights the urgency for better designed moral PE programs in secondary education institutes.

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