Instructors and Students Relations: Argumentativeness, Leadership and Goal Orientations

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Abstract

Focusing on argumentativeness, leadership and personal orientations, this study aims at: a) investigating the differences concerning gender and class, b) examining the relation between perceived instructors' argumentativeness, teaching leadership style and students' goal orientations, c) investigating the influence of instructors' argumentativeness on their leadership style and students' goal orientations in physical education context and d) proposing a students' and instructors' typology. The sample consisted of 260 students (127 males, 133 females) aged 10 - 12 years old ($M = 11.2$, $SD = 0.67$) from primary public schools who completed three types of questionnaires during physical education classes. The results supported the internal consistency of the instruments. According to the results of the study, statistically significant differences were observed in students' ego orientation between the genders and the classes of the students. Correlational analysis indicated that perceived instructors' argumentativeness was positively related to democratic teaching leadership style, students' task orientations and was negatively related to autocratic teaching leadership style, students' ego orientations. The results of regression analysis revealed that perceived instructors' argumentativeness could significantly predict the variables of teaching leadership style and students' goal orientations. Four behavioral types are revealed: 1) "learning by democracy and arguing", 2) "just democracy and arguing", 3) "just ego without learning" and 4) "learning by arguing".

1. Introduction

1.1. Argumentativeness

It has been supported that the way of instructors' communication in classroom noticeably determines the learning process [1]-[19]. Argumentativeness is an important parameter of modern time [20] [21] [22]. Specifically, it is conceptualized as the predisposition to defend one's position on controversial issues while attempting to refute another person's position [23] [24]. Argumentativeness has been investigated in various fields [25], such as school class [26] [27] [28] [29], workplace [30] [31] [32], family [33] [34] as well as among adolescents [35]. Argumentativeness is positively correlated with learning outcomes like affection, motivation, intrinsic discipline reasons and students' satisfaction [36]-[42]. The use of arguments facilitates the learning process and encourages cooperative action [43]. Moreover, teachers' argumentativeness is positively correlated with physical, social and scientific attraction [44]. Furthermore, it positively influences students' motives [39], as the class is satisfied and emotional learning is favored [41]. Due to argumentativeness, communication becomes reliable and more powerful [45] [46] [47]. Apart from that, it was found that effective use of arguments results in the positive perception of leadership [45] [48].

1.2. Leadership Style

The Multidimensional Model of Leadership includes five leadership styles: democratic, autocratic, training and instruction, social support and positive feedback. The democratic teacher allows students' participation in decision making, whereas the autocratic teacher imposes his opinion [49]. It was found that students feel greater satisfaction when teacher adopts a supportive leadership style [50]. Moreover, group members are more satisfied with the democratic leader than the autocratic one [51] [52]. Socially supportive leaders provide stronger motives, increase students' satisfaction as well as their desire to participate in a physical activity [53]. Leader's behavior is also crucial for group's cohesion [54]. Training, instruction and positive feedback are considered the most preferable leadership styles, whereas autocratic leadership is undesirable [55]. Nevertheless, students mention that they are satisfied with democratic style and social supportiveness [56]. The socially supportive leadership style enhances morale and collective efficiency [57], students' satisfaction [50], motivation and their desire to participate in a physical activity [53]. Teachers' positive feedback strengthens self-efficacy [58]. Moreover, teachers' encouragement is crucial for the outcome [59]. Training and instruction style is negatively correlated with anxiety [60], whereas autocratic style is positively correlated with anxiety, as well as with the use of verbally aggressive communication [61].

1.3. Goal Orientations

Achievement goal theory was initially developed from [62] [63] and investigates

motives in relation to each person's goal achievement, depending on his activity field, where children perceive their ability in two different ways: ego-orientation (people evaluate their ability in relation to other people) and task-orientation (people evaluate their ability according to their personal improvement). There are people that are oriented in both goals or in none of them [64]. Specifically, it was found that high level athletes are oriented in ego and task at the same time, possibly because high competition is a strong motive to overcome the competitors [65] [66]. People that are ego-oriented, try in every way to prove that they are better than the others, aiming at exhibiting their abilities. They think that it is a success to overcome the others. On the other side, people who are task-oriented, think that it is a success to be personally improved [66]. [67] [68] found that people, who are task-oriented, believe that slow progress and not meeting their expectations are a good opportunity to improve them, whereas people that are ego-oriented believe that these deficits constitute evidence of their low adequacy in relation to others. A motivation climate that promotes personal improvement and not competition creates the appropriate background for students' higher self-regulation and use of meta-cognitive strategies [69]. It was also found that the factor of social interaction influences achievement goals and interpersonal interactions [70].

1.4. Innovation and Questions of the Study

According to the arguments presented above, it is expected that issues of argumentativeness, leadership and orientations have been insightfully examined. However, the relations of students' goal orientations with argumentativeness and leadership style of instructors, as perceived by students, have not yet been explored.Here, relations among perceived argumentativeness and leadership style of instructors and students' goal orientationsat school are examined. The academic value of this research lies in the try to understand the relation between the afore-mentioned notions. The practical value is expected to consist in the empirical detection of settings and determinants of making the communication and the learning practice and behavior of instructors more effective. This practical value is supposed to further enhanced through more accurate observation made by the instructors in school, as they are going to be enabled to distinguish particular cases which are considered to need special handling.

Particularly, the following questions will be discussed:

- Are there any differences noted between the genders and class regarding argumentativeness, leadership style and goal orientations?
- Is there a positive or negative relationship between instructors' argumentativeness as perceived by students with teaching leadership style and students' self-reports of goal orientations in physical education classes?
- To what extent the perceived instructors' argumentativeness could be a significant predictor of their leadership style and the students' goal orientations?
- Can students' and instructors' typology regarding parameters of argumentativeness, leadership style perception and goal orientations be extracted?

2. Method

2.1. Participants and Procedures

The sample of the study consisted of 260 students (127 males, 133 females) aged 10 - 12 years old (M = 11.2, SD = 0.67) from primary public schools, Greece. All participants were at the 5th grade (141 students) and 6th grade (119 students) of public primary schools, originating from different socio-economic status. All students completed standardized questionnaires referring to the instructors' argumentativeness and leadership style and students' goal orientations, during their physical education lessons. The duration of completion was 20 - 30 minutes and voluntary. The informants answered anonymously and voluntarily. Thus, the answers are supposed to be sincere. Research ethics as well as best practice rules were observed.

2.2. Instruments

Argumentativeness. The Greek version [44] was used to assess instructors' argumentativeness, based on the conceptualization of [39]. Preliminary examination [44] supported the psychometric properties of the instrument. In particular, confirmatory factor analysis indicated satisfactory fit indices (CFI: 0.98, SRMR: 0.05), and internal consistency of the scale (a = 0.87). The scale consisted of ten items (e.g., "the teacher enjoys a good discussion with arguments on a controversial subject with his students", "the teacher avoids making use of arguments when he disagrees with his students"). Participants were asked to respond to the items based on a 5-point Likert-type scale ranging from 1 = never to 5 = always.

Leadership style. A shorter version of the Leadership Scale for Sports [49], adapted in Greek population [1] [61], was used in order to measure perceived instructors' leadership style. This short version consisted of 6 items describing autocratic leadership (e.g., "The instructor decides alone what to do regarding the organization and operation of the school") and 5 items describing democratic leadership teaching style (e.g., "The instructor allows students to set their own goals") only two of the five dimensions were used. Responses were given on a 5-point Likert-type scale ranging from 1: Strongly disagree to 5: Strongly agree.

Personal orientations. The Task and Ego Orientation questionnaire [64], adapted in Greek population [71] [72], was used to assess students' task and ego orientation. The scale consisted of two factors ("task" and "ego" orientation) and includes a total of 13 questions. Specifically, it is consisted of 7 questions describing task orientation (e.g., "learn a new exercise trying hard") and 6 questions describing the ego orientation (e.g., "am the only one who can do the exercise"). Participants were asked to respond on a 5 point Likert scale (from 1 = never to 5 = often).

2.3. Data Analysis

Data analysis included the use of the Statistical Package for Social Sciences (SPSS 21.0). The t-test for independent samples was used in order to reveal statistical

significant differences between genders and classes of the students. The Pearson correlation coefficient was used to measure the correlation between the subscales of the questionnaires.Regression analysis was conducted in order to explore the extent to which the perceived instructors' argumentativeness could be a significant predictor of their leadership style and students' goal orientations.The level of statistical significance was set at .05. Finally, students' and instructors' typology regarding parameters of argumentativeness, leadership style and goal orientations will be formulated using principal component analysis.

3. Results

Statistically significant differences were observed in students' ego orientation ($t_{1,258} = -2.11$, $p < 0.05$) between the two genders of the students("Table 1"), while there were no differences between gender in argumentativeness ($t_{1,258} = 0.19$, $p = 0.85$), democratic style ($t_{1,258} = 0.45$, $p = 0.66$), autocratic style ($t_{1,258} = -0.11$, $p = 0.92$) and task orientation ($t_{1,258} = 1.85$, $p = 0.07$).

Additionally, sstatistically significant differences were observed in students' ego orientation ($t_{1,258} = -1.99$, $p < 0.05$) between the two classes of the students ("Table 1"). Specifically, the 5th grade of primary school proved to have the higher score on ego orientation in comparison to 6th grade. There were no statistically significant differences between classes in argumentativeness ($t_{1,258} = 0.42$, $p = 0.67$), democratic style($t_{1,258} = 1.33$, $p = 0.18$), autocratic style($t_{1,258} = -1.36$, $p = 0.17$) and task orientation ($t_{1,258} = 0.59$, $p = 0.56$).

A correlation analysis was conducted, the results of which are presented in "Table 2". As it can be seen, there was a negative significant relationship between instructors' argumentativeness with autocratic style ($r = -0.49$) and ego

Table 1. Students' gender and class comparison.

	Gender	N	Mean	SD	t	df	p
Ego orientation	males	127	3.27	0.79	−2.11	258	0.036
	females	133	3.47	0.71			
	Class	N	Mean	SD	t	df	p
Ego orientation	5th grade	141	3.46	0.72	−1.99	258	0.048
	6th grade	119	3.27	0.78			

Table 2. Reliabilities, Means, Standard Deviations and Pearson Correlations among variables.

	α	M (SD)	1	2	3	4	5
1. Argumentativeness	0.68	3.00 (0.72)	-				
2. Autocratic style	0.59	2.81 (0.80)	−0.49**	-			
3. Democratic style	0.61	3.31 (0.71)	0.60**	−0.53**	-		
4. Task orientation	0.62	2.16 (0.55)	0.53**	−0.56**	0.40**	-	
5. Ego orientation	0.49	3.37 (0.75)	−0.26**	0.27**	−0.29**	−0.27**	-

*$p < 0.05$, **$p < 0.001$, α = Cronbach's alpha.

orientation (r = −0.26) and a positive significant relationship between argumentativeness with democratic style (r = 0.60) and task orientation(r = 0.53). At the same time, "Table 2" presents the Cronbach's alpha, mean scores and standard deviations of the variables.

Moreover, a series of simple regression analyses were conducted to examine the extent to which teaching leadership style and students' goal orientations could be predicted from the ratings of instructor's argumentativeness. The results indicated that perceived argumentativeness could predict significant variance in leadership style ($F_{(2,251)} = 84.43$, $p < 0.001$) with an R_2 of 40.2%. Perceived argumentativeness explained 21.5% of the variance in democratic style ($\beta = 0.48$, $t_{(254)} = -8.30$, $p < 0.001$) and 6.5% of the variance in autocratic style ($\beta = -0.22$, $t_{(254)} = -4.16$, $p < 0.001$). Another linear regression analysis was conducted to predict students' goal orientations based on instructor argumentativeness. The results indicated that perceived instructor argumentativeness could predict significant variance in goal orientations ($F_{(2,240)} = 50.73$, $p < 0.001$) with an R_2 of 29.7%. Argumentativeness explained 24.8% of the variance in task orientation ($\beta = 0.67$, $t_{(243)} = 8.90$, $p < 0.001$) and 2% of the variance in ego orientation ($\beta = -0.12$, $t_{(243)} = -2.21$, $p < 0.05$). The results of the regression analyses are presented in "Table 3".

In "Table 4", four types of relations between instructors' and students' options appear: 1) "learning by democracy and arguing", 2) "just democracy and arguing", 3) "just ego without learning" and 4) "learning by arguing".

4. Discussion

Goal of this study is: a) to explore differences between genders and classes regarding argumentativeness, leadership style and goal orientations, b) to examine the relationship between perceived physical education instructors' argumentativeness and leadership style as perceived by students and students' goal orientations, c) to discuss the influence of instructor argumentativeness on their leadership style and student goal orientations and d) to suggest instructors' and students' typology. According to the results, statistically significant differences were observed in students' ego orientation between the genders and the classes of the students. Perceived instructors' argumentativeness was positively related to democratic teaching leadership style, students' task orientations and was negatively related to autocratic teaching leadership style, students' ego orientations.

Table 3. Regression analysis results according to argumentativeness.

	B	95% CI B	SE	β	t
Democratic style	0.48	0.37, 0.60	0.06	0.48	8.30**
Autocratic style	−0.24	−0.11, −0.32	0.05	−0.22	−4.16**
Task orientation	0.50	0.52, 0.82	0.08	0.67	8.90**
Ego orientation	−0.12	−0.01, −0.22	0.05	−0.12	−2.21*

**$p < 0.001$, *$p < 0.05$.

Table 4. Typology of leadership style, goal orientation and argumentativeness.

		Learning by democracy and arguing	Just democracy and arguing	Just ego without learning	Learning by arguing
Task	Learning a new exercise makes me exercise more	0.056	−0.282	0.158	**0.565**
	Doing the best I can	0.011	−0.231	0.132	**0.462**
	Working reallyhard	**0.803**	−0.025	−0.057	0.036
	Learning something makes me want to exercise more	**0.813**	0.005	−0.086	0.167
	An exercise I'm learning is really right	**0.806**	0.088	−0.090	0.186
	Learning a new exercise trying hard	0.075	−0.306	0.139	**0.445**
Ego	Going better than my friends	0.037	0.088	**0.760**	−0.187
	Others are doing bad, while I do not	0.096	−0.034	**0.327**	0.063
	Treatsourmistakesgraciously	−0.130	**0.511**	−0.149	−0.100
Democratic style	Lets children set their own goals	**0.893**	0.053	0.007	−0.081
	Lets us try things in our own way	**0.902**	0.035	0.039	−0.082
	Allows us to suggest ways of practicing	−0.060	**0.653**	0.038	−0.133
	Takes into account the opinion of us	−0.043	**0.557**	−0.100	−0.198
	No talking with arguments when he has disagreements	−0.092	**0.424**	0.064	**0.327**
	Is enthusiastic when he attempts to resolve arguments	−0.091	**0.543**	−0.095	0.078
Argumentativeness	Enjoys a good discussion with arguments	**0.896**	0.046	0.028	−0.080
	Is glad to defend his point of view on a subject	**0.898**	0.008	0.069	−0.092
	Avoid talking about issues that disagree with us	**0.893**	0.016	0.027	−0.131
	Prefers to chat with us who rarely disagree with him	**0.890**	−0.003	0.065	−0.156
	Thinks that a debate is an exciting challenge	**0.888**	0.057	0.049	−0.047
	Is not good at using arguments in a dispute with us	−0.098	**0.536**	0.022	**0.332**
	Tries to avoid discussing arguments when disagrees	−0.073	**0.405**	0.194	**0.394**

Extraction Method: Principal Component Analysis. a 8 components extracted.

Also, perceived instructors' argumentativeness could significantly predict the variables of teaching leadership style and students' goal orientations. Four behavioral types are revealed: 1) "learning by democracy and arguing", 2) "just democracy and arguing", 3) "just ego without learning" and 4) "learning by arguing".

The findings of the present study seem to be consistent with the results of previous research, showing that instructors' argumentativeness is related with their behavioral characteristics in the classroom such as the relaxed and friendly attitude toward their students, as teachers themselves are considered to open to dialogue and different opinions, and to have the ability to listen carefully and comprehensively [39] [73]. However, the multilevel correlation conducted in this research is supposed to offer an overview of interactions. In addition, the argumentativeness was positively related to with the democratic leadership style and involves the active participation of students in decision-making and the re-

spect and encouragement by the instructor to freely express ideas and to take initiatives [74] [75]. On the other hand, the negative correlation of argumentativeness with autocratic leadership style may be attributed to the fact that educators characterized by authoritarianism tend to give orders without taking into account the views of their students and not to justify their decisions [74] [76].

As [41] have argued, when instructors use arguments in the classroom, students are more satisfied with their communication and tend to develop positive emotions, both towards educators and towards the lesson. Additionally, instructors' argumentativeness is related with the achievement of students' personal goals, increased motivation for learning, facilitating the learning process, and improved interpersonal relations at class level, as the educator encourages students by arguing [27] [38] [77] [78] [79].

In this study, it was also found that teaching democratic style was positively correlated with their students' task orientation and negatively correlated with their ego orientation. These findings are in accordance with previous research indicating that the perceived teaching democratic style was positively correlated with students' task orientation in the physical education lesson while the autocratic leadership style was linked to the students' ego orientation [80] [81]. [74] found that adolescent athletes who regarded their coaches as supportive, are ready to offer guidance and positive feedback and less oriented towards achieving high performance or winning a race.

Many studies have also studied the effects of the perceived climate created by the educator on the motivation of children in sport [82] [83] [84] [85]. In particular, [86] found that students who thought their educators were supportive and that they had the ability to view and select activities during the physical education lessons were more entertained showed more interest in the lesson and they felt confident about their abilities. [82] found similar results indicating that pupils who had the ability to view and select activities during their physical education course believed that their instructors were promoting learning and participation, they enjoyed the lesson and continued to try, even if they did not succeed immediately.

As for the differences among argumentativeness, leadership style and personal orientations on the basis of gender and class, it was found that only the ego orientation depends on gender and class of students. It was found that the girls were more ego-oriented than the boys and that the students of the 5th class were more ego-oriented compared to the children of the 6th grade. The findings regarding the differences of ego orientation according to the class of students are in inconsistency with those of [87], who argued that the ego orientation is also increasing with the age. On the other hand, [88] found that the larger ones were more task-oriented than the smaller ones, and attributed this finding to maturity of older students and their long-term goals, according to which success is intertwined with the effort. Also, [89] found that the older ones enjoyed sport more than the younger ones. Finally, concerning the differences of the ego orientation in relation to the gender of the students, the findings of this research

contradict the previous research. In particular, [87], through the study of children aged 10 - 17 who participated in the physical education lesson, found that boys were more ego-oriented than girls. The same conclusion was reached by other researchers who dealt with children's personal orientations either in physical education or in the sport they practice individually [88] [90]. The differentiation of the findings of this research could be attributed to the fact that previous surveys included children from different levels of education at the same time and possibly the developmental changes that take place play a role in changing children's orientations.

The results of the present study are compatible with these of previous research suggesting that instructors' argumentativeness helped students express themselves freely improving their self-confidence and learning [9] [43] [44] [61] [91] [92]. Further research supported that instructors' personality plays a determinant role in the relationship with their students and influences their behavior, emotions, tactics and attitudes [78] [79] [93]. This study, particularly, revealed that instructor's perceived argumentativeness emerged as the most important predictor of teaching leadership style and of students' goal orientations, which is in accordance with previous findings showing that instructors' argumentativeness is positively related to their interpersonal attraction and responsibility, as well as to intrinsic reasons for discipline [36] [44].

Moreover, four types of relations between instructors' and students' options appear: 1) "learning by democracy and arguing", 2) "just democracy and arguing", 3) "just ego without learning", 4) "learning by arguing". The type 1 reflects a pattern of cooperation which could be regarded as quite "constructive" and "modern". The main goal of student is to learn (not to emphasize their ego). This seems to be achieved through a democratic and argumentative style in the part of instructors. It seems to be a quite sociable and learn-effective cooperation pattern. The type 2 is a unilateral tactic of the instructors. It depicts a class climate where the instructors are loyal to democratic and argumentative style, disregarding however the reaction of the students. The type 3 is a similar pattern in the part of students. Particularly, it depicts a class climate where the students' "ego" mentality dominates, independently of the instructors' style. Finally, the type 4 appears as sub-model of the type 1. Namely, learning is achieved by argumentation, independently of any democratic style. Such typologies have also been suggested in previous papers [94]-[107] but not so extensively focusing on the particular parameters and with the particular quantitative method.

Concisely, this study not only contributes to our understanding of factors associated with instructors' argumentativeness but also corroborates the results produced in previous studies. Enlarging the sample to various regions, age classes and social milieus constitutes a challenge for future research. The insightful analysis of more determinants is also an open question.

Conflicts of Interest

There are no known conflicts of interest associated with this publication.

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