

Insights Into Instructors' Verbal Aggressiveness and Students' Machiavellianism Through Leadership Style and Motivational Climate

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Abstract

The aim of the present study was threefold: a) to explore the relationship between perceived instructor verbal aggressiveness, leadership style, motivational climate and student Machiavellianism, b) to investigate the influence of instructor verbal aggressiveness on their leadership style, motivational climate and student Machiavellianism in physical education context and c) to propose students' and instructors' typology. The sample consisted of 247 Greek students (128 males, 119 females) aged 14-17 years old ($M=15.4$, $SD=.49$) from secondary schools who completed four types of questionnaires during physical education classes. The results supported the internal consistency of the instruments. Statistically significant differences were observed in instructors' verbal aggressiveness, autocratic leadership teaching style, democratic leadership style and students' Machiavellianism between the two genders of the students. Perceived instructors' verbal aggressiveness was negatively related to their democratic teaching style and mastery climate. Also, there was a positive significant relationship between instructors' verbal aggressiveness and autocratic teaching style, performance climate and students' Machiavellianism. The results of regression analysis revealed that perceived instructors' verbal aggressiveness could significantly predict the variables of leadership teaching style, motivational climate and students' Machiavellianism. Distinct types of relations between students and instructors may be distinguished: the "insurrection", the "acceptance of authoritarianism" and the "effective democracy". The findings and the effects of the instructors' verbal aggressiveness on leadership style, motivational climate and students' Machiavellianism are further discussed and future research issues are suggested.

Keywords: Verbal aggressiveness; Machiavellianism; leadership style; motivation climate

Introduction

Verbal aggressiveness

Communicating may sometimes take place aggressively. Verbal aggressiveness could be perceived as attacking on the self-concept of an individual rather than as attacking the position of a person. Such an attack on the self-concept can aim at inflicting psychological pain, such as humiliating, embarrassing or similarly painful feelings which may sometimes lead up to physical attacks (Infante & Rancer, 1996; Infante & Wigley, 1986; Rancer & Avtgis, 2014). There were identified nine types of verbally aggressive messages used by instructors: competence attacks, work ethic attacks, swearing, threats, character attacks, nonverbal behaviors, teasing, background attacks, and physical appearance attacks (Myers, Brann & Martin, 2013). It has been supported that teachers' verbal aggressiveness is negatively correlated with students' attendance and participation in the learning process (Myers, Edwards, Wahl, & Martin, 2007; Samar & Amiri, 2012), state motivation (Bekiari, Kokaridas & Sakellariou, 2005; 2006; Manoli & Bekiari, 2015; Myers, 2002; Teven, 2007; Teven & McCroskey, 1997; Thweatt & McCroskey, 1998), student-teacher communication (Bekiari & Hasanagas, 2015; 2016; Bekiari & Manoli, 2016; Bekiari & Sakellariou, 2002; Hasanagas & Bekiari, 2015; Myers et al., 2007; Rocca & McCroskey, 1999) and classroom climate (Bekiari & Syrmpas, 2015; Myers & Rocca, 2000). Certain studies have provided information about physical education instructors' verbal aggression during lessons. It has been argued that physical education instructors' verbal aggressiveness is negatively correlated with students' learning process (Bekiari, Kokaridas & Sakellariou, 2005), affective learning (Bekiari, 2012), prosocial fair-play behaviors (Hassandra, Bekiari, & Sakellariou, 2007), interpersonal attraction (Bekiari & Spyropoulou, 2016; Syrmpas & Bekiari, 2015), intrinsic motivation and lesson satisfaction (Bekiari, 2014; Bekiari, Perkos & Gerodimos, 2015; Bekiari & Syrmpas, 2015), discipline reasons (Bekiari, Kokaridas & Sakellariou, 2006; Bekiari & Tsiana, 2016). In sport settings verbally aggressive coaches are perceived as less favorable by their athletes and, simultaneously, are considered to present weaker sportsmanship. Nevertheless, trainees were less satisfied with their coaches and had lower win-loss percentages (Kassing & Infante, 1999). Verbally aggressive coaches are regarded as less credible by their trainees and they possibly let them feel less motivated (Bekiari, Perkos & Gerodimos, 2015; Mazer, Barnes, Grevious, & Boger, 2013). Furthermore, the relationship between athletes' aggressiveness and the type of sport has been explored (Huang, Cherek & Lane, 1999; Lemieux, McKelvie, & Stout, 2002). Particularly, it has been suggested that athletes participating in non-contact sports regarded the coaches as less verbally aggressive in comparison with athletes who participate in high-contact sports (Bekiari, Digelidis &

Sakellariou, 2006). Additionally, male players of volleyball have considered anxiety to be higher and seemed to be more strongly affected by the coaches' verbal aggressiveness than female players (Bekiari, Patsiaouras, Kokaridas, & Sakellariou, 2006).

Leadership style

The Multidimensional Model of Leadership proposed by Chelladurai (1978) consists of five instructors' leadership styles: the degree of democratic/autocratic manner, the existence or not of training, the practicing or not of guidance, the implementation or not social support and the existence or not of positive feedback. A democratic coach allows participation of athletes in decision-making, while an autocratic one imposes his opinion. Practicing training and guidance characterizes coach focusing on sound preparation of athletes and on the need of positive feedback aiming at strengthening and encouragement of trainees. The socially supportive coach interacts effectively with athletes and concludes to interpersonal relationships (Chelladurai, 1978). Preferred leadership behaviors considered coaching and guidance, and the positive feedback and undesired leadership is autocratic (Surujlal, Dhurup, 2012). However, athletes are satisfied and the democratic style and social support (Moen, Hoigaard & Peters, 2014). The socially supportive leadership style boosts morale and collective effectiveness of the group (Hampson & Jowett, 2014), increases the enjoyment of athletes (Bray, Millen, Eidsness & Leuzinger, 2005), satisfaction, motivation and desire to participate in physical activity (Chatzisarantis, & Hagger, 2009). The positive feedback of the coaches enhances self- efficacy of athletes (Lloyd & Little, 2010) and animation by coaches considered decisive for winning the race (Fransen, Vanbeselaere, De Cuyper, Broek & Boen, 2014). The style of training and guidance is negatively related to the racing stress (Monemi & Moghaddam, 2013), while the autocratic style is positively correlated with anxiety and the use of verbal aggressive behavior from the instructor (Bekiari, 2014).

Motivational climate

The concept of motivational climate derived from the Achievement-Goal Theory (Ames & Archer, 1988; Elliot & Dweck, 1988; Nicholls, 1984). AGT proposes that people's behaviors which are led by goals are determined by the motivational environment in which they are exposed, as well as the orientation of their goals (Nicholls, 1989; Ames, 1992). Motivational climate has been defined as a moral environment that directs the goals of an action in achievement conditions (Ames, 1992; Ames & Archer, 1988; Dweck & Leggett, 1988; Jaakkola & Digelidis, 2007; Nicholls, 1984; 1989). Two types of motivational climate have been proposed: the mastery- or task-oriented and the performance- or ego-oriented climate (Roberts,

Treasure, & Conroy, 2007). Certain behaviors and interactions are considered to contribute to the motivational climate, based on the effort to promote competition and being supportive, cooperative and affectionate (Vazou, Ntoumanis & Duda, 2005; Keegan et al., 2009). Additionally, aspects about motivation are associated with perceptions of social interactions within the learning environment, such as perceptions of teacher's support (Patrick, Mantzicopoulos, Samarapungavan, & French, 2008; Patrick, Ryan, & Kaplan, 2007), classroom's climate (Dorman, 2001; Dorman & Adams, 2004; Freeman, Anderman, & Jensen, 2007; Kokaridas, Bekiari & Sakellariou, 2005), school's climate (Anderman & Anderman, 1999) and positive feelings about school (Witkow & Fuligni, 2007). The motivational climate oriented to performance is promoted by the interpersonal competition, public valuation, and normative review. In contrast, mastery-oriented motivational climate is encouraged by the teacher's focus on education, self-improvement, tasks, such as optimally challenging work and effort (Ames, 1992). The climate that emphasizes social comparison and the results of performance, rather than the individual's learning process and improvement, can create feelings of anxiety and confusion (Liukkonen, Barkoukis, Watt & Jaakkola, 2010). Studies reviewed by Braithwaite, Spray and Warburton (2011) showed adaptive outcomes (such as pleasure, loyalty and confidence) in students involved in mastery climate, while maladaptive effects (such as stress and boredom) resulted in performance climate. In sports motivational climate represents an achievement environment and its psychological structure, which can be enhanced by the coach, the team, their parents or a combination of all these (Barić & Horga, 2007). Parents, peers and coaches contribute actively to the motivational climate faced by athletes (Le Bars, Gernigon, & Ninot, 2009; O'Rourke, Smith, Smoll, & Cummings, 2014). The mastery climate is positively associated with prosocial behavior, sportsperson ship, including respect for the game, the rules, officials, opponents and teammates and negatively associated with antisocial behavior. Conversely, a performance climate is positively associated with anti-social behavior and low levels of sportsperson ship and ethical function (Boardley & Kavussanu, 2009; Kavussanu, 2006; Kavussanu & Spray, 2006; Miller, Roberts, & Ommundsen, 2004). A climate-oriented in performance typically is associated with tension, reduced positive attitudes toward the instructor, reduced performance and withdrawal of effort (Lau & Nie, 2008; Nerstad et al., 2013a). Extensive research has shown that a task climate is likely to induce results such as prosperity, satisfaction, perseverance in work, achievement strategies in persistence and adaptability (Ntoumanis & Biddle, 1999; Roberts, 2012).

Machiavellianism

The Machiavellian person is characterized by the ability to influence other people and control them, and self-interest is the key motive of his behavior (Walter, Anderson, & Martin, 2005). Machiavellian persons seem to be ideologically neutral, to present restricted emotional involvement in interpersonal relationships, and to avoid commitments when it is to their advantage to do so (Dahling, Whitaker, & Levy, 2009; Mudrack & Mason, 1995). It has been found that a significant negative relation appears between Machiavellianism and personality and conscientiousness (Paulhus & Williams 2002). Simultaneously, a positive relation between Machiavellianism impatience and everesthisia (Aziz & Vallejo, 2007). It has been shown that the characteristics of a non-genuine person are a good predictor of Machiavellianism (Ashton, Lee & Son, 2000). A relationship appears also between moral judgments and Machiavellianism (McMahon & Cohen, 2009; Mudrack, Bloodgood & Turnley, 2012; Pan & Sparks, 2012; Shafer & Simmons, 2008). Dahling et al. (2009) identified four dimensions in Machiavellianism: distrust towards others, desire for power, desire for control and immoral manipulation. Machiavellian individuals seem also to use offensive and dishonest way to achieve their goal, manipulating and convincing others to perform, but they are not convinced by others (Christie & Geis, 1970). Moreover, these people tend to violate the rights of others in order to satisfy personal interest (Zagenczyk et al, 2014) and show deviant behavior. Finally, it has been argued that a positive relationship exists between aggression and Machiavellianism as the Machiavellian tactics connected both with abuse and aggressiveness in school context (Andreou, 2004), tending the Machiavellian students to be heartless, selfish and malicious in their interpersonal relations (Bereczkei, 2015).

The present study

Allowing for the above literature review, the present study aimed to investigate the relations among perceived instructors' verbal aggressiveness, leadership style and motivational climate and students' Machiavellianism in physical education classes. In particular, this study intends to answer the following research questions:

- Are there any differences noted between the two sexes regarding verbal aggressiveness, leadership style, motivational climate and Machiavellianism?
- Is there a positive or negative relationship between instructors' verbal aggressiveness, their leadership style and motivational climate as perceived by students with students' self-reports of Machiavellianism in physical education classes?

- To what extent the perceived instructors' verbal aggressiveness could be a significant predictor of their leadership style and motivational climate and the students' Machiavellianism?

- Can students' and instructors' typology regarding parameters of verbal aggressiveness, leadership style, motivational climate perception and Machiavellianism be extracted?

In the light of the findings, useful conclusions is expected to be drawn regarding the relation of instructors' verbal aggressiveness, leadership style, motivational climate as perceived by students with students' self-reports of Machiavellianism in physical education classes.

Method

Participants and Procedures

The sample of the study consisted of 247 students (128 males, 119 females) aged 14-17 years old ($M=15.4$, $SD=.49$). The sample was randomly selected from Thessaloniki region, Greece. All the participants were between the 2nd, 3st, and 4th grade of secondary schools and belonged to different socio-economic status. All students completed questionnaires referring to the instructors' verbal aggressiveness, leadership style, motivational climate and students' Machiavellianism, during their physical education lessons. The questionnaires were fluently completed within 20-30 minutes. The anonymity of the informants was emphasized and the participation was voluntary. Thereby, sincere answers were expected. Best practice rules and research ethics were observed.

Instruments

Verbal aggressiveness. The Greek version (Bekiari & Digelidis, 2015), which was used to assess physical education teacher verbal aggressiveness, relied on the theoretical framework and the Verbal Aggressiveness Questionnaire developed by Infante and Wigley (1986). Preliminary examination (Bekiari & Digelidis, 2015) supported the psychometric properties of the instrument. In particular, confirmatory factor analysis indicated satisfactory fit indices (confirmatory factor analysis: .97, SRMR: .02), and internal consistency of the scale ($\alpha = .96$). The scale consisted of eight items (e.g., 'the teacher insults students,' 'the teacher makes negative judgments of students' ability'). Participants were asked to respond on a 5-point Likert-type scale ranging from 1: Strongly disagree to 5: Strongly agree.

Leadership style. A shorter version of the Leadership Scale for Sports (L.S.S.), (Chelladurai & Saleh, 1980), 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 function 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.

Motivational climate. The motivational climate was measured with the short version of the Learning and Performance Orientations in Physical Education Classes Questionnaire (LAPOPEQ) (Papaioannou, 1998). The questionnaire consists of two scales referring to perceptions of instructor-initiated motivational climate. The first-seven-item scale measures perceptions of mastery climate (e.g., “The instructor is completely satisfied when every student’s skills are improving”) and the other six-item scale measures perceptions of the instructor’s try to promote performance climate (e.g., “The instructor attends to the best records only”). CFA findings suggested that the overall two factors motivational climate model fit the data well (Hu & Bentler, 1999): (CMIN = 135.372 [df =54], CMIN/df = 2.507, TLI = .966, CFI = .976, RMSEA = .064). The Cronbach’s alpha value varied between .74 and .87 indicating good internal consistency for the scale. Based on both methods values (Spearman-Brown coefficient= .85 and Cronbach’s α = .90) it can be suggested that the reliability of the mastery climate is high. Following the item “In this training session,” responses to the items were indicated on a five-point Likert-type scale (5=strongly agree, 1=strongly disagree).

Machiavellianism. A version of the Machiavellianism Scale (Mudrack & Mason, 1995) was used in order to measure students’ Machiavellianism. The Cronbach’s alpha value was .87 indicating good internal consistency for the scale. The scale consisted of ten items (e.g., "Often behave with guile to achieve what you want?", "Do you like to manipulated people?", "Would you be willing to be ruthless to get ahead in your life?") and the students respond to a Likert five-point scale from “totally disagree” to “totally agree” (Totally disagree=1, Disagree=2, Somewhat agree=3, Agree=4 and Totally agree=5).

Data analysis

Data analysis included the use of the Statistical Package for Social Sciences (SPSS 21.0). Cronbach’s α reliability analysis was used to examine the internal consistency of the factors of each questionnaire. The t-test for independent samples was used in order to reveal statistical significant differences between the two genders of the students. The Pearson correlation coefficient was used to measure the correlation between the subscales of the questionnaires. Moreover, regression analysis was conducted in order to explore the extent to which the perceived instructors’ verbal aggressiveness could be a significant predictor of their leadership style and motivational

climate and the students' Machiavellianism. The level of statistical significance was set at .05. Finally, students' and instructors' typology regarding parameters of verbal aggressiveness, leadership style, motivational climate perception and Machiavellianism will be formulated using principal component analysis.

Results

Cronbach's α reliability analysis for the 8-items verbal aggressiveness scale (Bekiari & Digelidis, 2015) was .91. The factors of autocratic teaching style ($\alpha=.92$) and democratic style ($\alpha=.93$) of the questionnaire of Chelladurai and Saleh (1980) were high too. The factors of mastery climate ($\alpha=.89$) and performance climate ($\alpha=.90$) for the motivational climate scale (Papaioannou, 1998) showed a high degree of reliability. The factor of Machiavellianism scale (Mudrack & Mason, 1995) showed a high level ($\alpha=.89$) of reliability too.

Statistically significant differences were observed in instructors' verbal aggressiveness ($t_{1,245}=3.50, p<.05$), autocratic leadership teaching style ($t_{1,245}=3.18, p<.05$), democratic leadership style ($t_{1,245}=-2.62, p<.05$) and Machiavellianism ($t_{1,245}=3.61, p<.05$) between the two genders of the students (Table 1), while there were no differences between gender in mastery and performance motivational climate.

Table 1. Students' gender comparison

Variables	Gender	N	Mean	SD	t	df	p
Verbal aggressiveness	males	128	3.58	1.09	3.50	245	.001
	females	119	3.04	1.30			
Autocratic style	males	128	3.44	1.10	3.18	245	.002
	females	119	2.96	1.23			
Democratic style	males	128	2.36	1.26	-	245	.009
	females	119	2.82	1.46			
Machiavellianism	males	128	3.20	.79	3.61	245	.000
	females	119	2.80	.93			

In addition, 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' verbal aggressiveness and democratic teaching style ($r=-.82$) and mastery climate ($r=-.49$). Also, there was a positive significant relationship between instructors' verbal aggressiveness and autocratic teaching style ($r=.79$), performance climate ($r=.67$) and Machiavellianism ($r=.91$).

Table 2. Correlation analysis results

	1	2	3	4	5	6
1. Verbal aggressiveness	1.00					
2. Autocratic style	.79**	1.00				
3. Democratic style	-.82**	-.78**	1.00			
4. Mastery climate	-.49**	-.46**	.54**	1.00		

5. Performance climate	.67**	.77**	-.67**	-.45**	1.00	
6. Machiavellianism	.91**	.72**	-.80**	-.43**	.63**	1.00

** p < .001

Moreover, a series of simple regression analyses were conducted to examine the extent to which leadership teaching style, motivational climate and Machiavellianism could be predicted from the ratings of instructor's verbal aggressiveness. The results indicated that perceived instructor verbal aggressiveness could predict significant variance in leadership teaching style ($F_{(2,244)}=504.26$, $p<.001$) with an R^2 of 79%. Perceived verbal aggressiveness explained 2.5% of the variance in autocratic teaching style ($\beta=.28$, $t_{(242)}=5.62$, $p<.001$) and 14.7% of the variance in democratic teaching style ($\beta=-.59$, $t_{(242)}=-13.55$, $p<.001$). Another linear regression analysis was conducted to predict motivational climate based on instructor verbal aggressiveness. The results indicated that perceived instructor verbal aggressiveness could predict significant variance in motivational climate ($F_{(2,244)}=148.60$, $p<.001$) with an R^2 of 55%. Verbal aggressiveness explained 3.7% of the variance in mastery motivational climate ($\beta=-.19$, $t_{(242)}=-4.49$, $p<.001$) and 28.3% of the variance in performance motivational climate ($\beta=.59$, $t_{(242)}=12.37$, $p<.001$). Finally, another linear regression analysis was conducted to predict students' Machiavellianism based on instructor verbal aggressiveness. The results indicated that perceived instructor verbal aggressiveness could predict significant variance in Machiavellianism ($F_{(1,244)}=42.94.19$, $p<.001$) with an R^2 of 94%. Verbal aggressiveness explained 93% of the variance in students' Machiavellianism ($\beta=1.36$, $t_{(243)}=65.53$, $p<.001$). The results of the regression analyses are presented in Table 3.

Table 3. Regression analysis results according to verbal aggressiveness

	B	95% CI B	SE	β	T
Autocratic style	.27	.18, .38	.05	.28	5.60**
Democratic style	-.66	-.67, -.50	.04	-.59	-13.55**
Mastery climate	-.19	-.28, -.11	.04	-.22	-4.50**
Performance climate	.59	.50, .68	.05	.61	12.37**
Machiavellianism	.95	1.29, .1.37	.02	1.35	65.51**

**p < .001

Moreover, in the Table 4, three types of relations between students and instructors may be distinguished: the “insurrection”, the “acceptance of authoritarianism” and the “effective democracy”. The first type is a generalized situation of oppression and Machiavellian reaction mostly emerging under the condition of emphasizing mastery-climate. The second type is a situation where even authoritarianism may be acceptable under conditions of no verbal aggressiveness. The third type seems to be a

technocratic situation where performance-climate leaves scope of action or thinking.

Table 4. Mixed typology

	“Insurrection”	“Acceptance of authoritarianism”	“Effective democracy”
va1	.946	-.171	.082
va2	.882	-.278	.171
va3	.838	-.334	.176
va4	.934	-.216	.113
va5	.922	-.211	.039
va6	.920	-.102	-.060
va7	.941	-.176	.018
va8	.926	-.031	-.026
mach1	.798	-.038	-.065
mach2	.868	-.150	.010
mach3	.870	-.211	.094
mach4	.814	-.195	.046
mach5	.797	-.291	.232
mach6	.755	-.378	.118
mach7	.859	-.198	.095
mach8	.805	-.288	.161
mach9	.519	-.137	.040
mach10	.878	-.160	.075
mast1	.891	.234	.051
perf2	-.900	-.038	.321
mast3	.850	.408	.184
perf4	-.910	-.042	.323
mast5	.851	.381	.184
perf6	-.912	-.039	.292
mast7	.902	.222	.090
perf8	-.904	-.040	.307
mast9	.896	.260	.084
mast10	.883	.252	.074
mast11	.879	.220	.097
perf12	-.904	-.025	.301
perf13	-.912	-.022	.272
aut1	.839	.395	.179
dem2	-.915	-.051	.293
aut3	.832	.406	.180
dem4	-.904	-.042	.329
aut5	.846	.369	.184

dem6	-.907	.005	.272
aut7	.848	.403	.165
dem8	-.908	-.042	.313
aut9	.854	.380	.164
dem10	-.913	-.039	.287
aut11	.901	.228	.083

Extraction Method: Principal Component Analysis

(va: verbal aggressiveness, mach: Machiavellianism, perf: performance, mast: mastery, aut: autocratic, dem: democratic)

Discussion and challenges for future research

The aim of this study was threefold: a) to explore the relationship between perceived instructor verbal aggressiveness, leadership style, motivational climate and student Machiavellianism, b) to investigate the influence of instructor verbal aggressiveness on their leadership style and motivational climate and student Machiavellianism in physical education context and c) to propose students' and instructors' typology. According to the results of the study, statistically significant differences were observed in instructors' verbal aggressiveness, autocratic leadership teaching style, democratic leadership style and students' Machiavellianism between the two genders of the students. Additionally, it was shown that perceived instructors' verbal aggressiveness was negatively related to their democratic teaching style and mastery climate. There was, also, a positive significant relationship between instructors' verbal aggressiveness and autocratic teaching style, performance climate and students' Machiavellianism. Moreover, it was revealed that perceived instructors' verbal aggressiveness could significantly predict the variables of leadership teaching style, motivational climate and students' Machiavellianism. Distinct types of relations between students and instructors may be distinguished: the "insurrection", the "acceptance of authoritarianism" and the "effective democracy".

Regarding differences concerning gender, it is here supported that male students perceived instructors as more verbally aggressive, more autocratic, more strongly susceptible to create performance-oriented climate and to present Machiavellian practices than female students in physical education context. This is in accordance with Infante (1989) who argued that educators are susceptible to be less verbally aggressive toward female. Usually, male appear to be less obedient toward instructors. This seems to increase the verbal aggressiveness of the instructors who, thereby, attempt to restore discipline. Similarly, the present study revealed that male students perceived the instructors as more verbally aggressive and more autocratic than female ones (Bekiari, 2014). In addition, male appear to be more familiar with physical violence or bullying episodes than female (Athanasiaides & Deliyanni-Kouimtzis, 2010). Weiss and Ferrer-Caja (2002) argue that male are expected

to be more skillful and competitiveness than female according to social stereotypes.

In this study, the verbal aggressiveness of instructors proved to be positively related to the autocratic teaching style the Machiavellianism of the students. These findings seems to be indirectly in accordance with the tenor of previous research indicating that instructors' verbal aggressiveness was negatively related to students' intrinsic motivation, democratic teaching style, pro-social fair play behaviors, interpersonal attraction and satisfaction (Bekiari, 2012; 2014; Bekiari et al, 2015; Bekiari & Syrmpas, 2015; Hamilton & Hample, 2011; Hasanagas & Bekiari, 2015; Hassandra, Bekiari & Sakellariou, 2007; Myers, 2002; Myers & Rocca, 2001; Syrmpas & Bekiari, 2015; Theoharis & Bekiari, 2016). Furthermore, it has been suggested that the personality of instructors strongly determines their relationship with the students and influences the latter's behavior, emotions, tactics and attitudes (Infante & Rancer, 1996; Rancer & Avtgis, 2014). This study, particularly, revealed that perceived instructor's verbal aggressiveness is a quite important predictor of students' Machiavellianism, which is in accordance with previous findings showing that instructors' verbal aggressiveness is negatively related to students' pro-social fair play behaviors (Hassandra, Bekiari & Sakellariou, 2007), since Machiavellian persons using offensive and dishonest way to achieve their goal (Christie & Geis, 1970), tend to present deviant behavior (Zagenczyk et al., 2014), using deception as a strategy to overturn the unjust and autocratic discipline (Talwar & Lee, 2011). Furthermore, the Machiavellian adults show hostile feelings and hostile behavior (Locke & Christiensen, 2007), as well as aggression (Andreou, 2004; Corzine & Hozier, 2005), tending to be heartless, selfish and malicious in interpersonal relations (Bereczkei, 2015).

Also, in present study, there was a positive significant relationship between instructors' verbal aggressiveness and performance climate. These findings seem to be congruent with previous studies conducted in the education field. Particularly, previous findings supported that instructors' verbal aggressiveness is negatively related with students' motivation state (Myers, 2002; Myers & Rocca, 2000; 2001). Such a motivation seems to be based on common background with intrinsic motivation which was in turn found to be positively related with mastery climate (Goudas, 1998). Presuming that competition is a dominant characteristic of physical education and instructors lay emphasis on personal performance by prioritizing achievement such as "who can score more points in basket ball", then instructors tend to adopt an aggressive behavior because of the tension enhanced by such a context. Nevertheless, in a physical education context in which learning is officially the prevalent goal, they would be expected to practice less verbally aggressive behavior. Thus, it is still questionable whether verbal

aggressiveness is positively related with performance climate and negatively with mastery climate.

Moreover, three types of relations between students and instructors may be distinguished: the “insurrection”, the “acceptance of authoritarianism” and the “effective democracy”. The first type is a generalized situation of oppression and Machiavellian reaction mostly emerging under the condition of emphasizing mastery-climate. The second type is a situation where even authoritarianism may be acceptable under conditions of no verbal aggressiveness. The third type seems to be a technocratic situation where performance-climate leaves scope of action or thinking.

In case of “insurrection” a generalized oppression appears to take place due to the verbal aggressiveness and the authoritarianism attributed to the instructor. These conditions seem to cause dissatisfaction and, subsequently, a Machiavellian reaction in the part of the students. Additionally, the mastery-climate created by the instructors seems to be more demanding in dedication and adaptability of the way of thinking and learning behavior of the students, in contrast to a performance-climate which would demand only a superficial output from the students. This demand for a deeper mental dedication enhances the feeling of oppression and the Machiavellian reaction.

The “acceptance of authoritarianism” consists in a situation where an authoritarian instructor who demand from the students to adapt their way of thinking to his learning requests. He could be characterized a mentally totalitarian instructor who is, however, no verbally aggressive. The lack of verbal aggressiveness seems to convince the students that such a demanding instructor is characterized by self-confidence, that he regards the learning subject as an ideal and not just as a superficial objective (as the performance would be). In other word, he convinces with his behavior that he tries to serve his “ideal” and not to impose it or to promote his image or to emphasize his ego. Under these conditions, the students are more susceptible to believe that the instructor also believes in their mental qualifications and regards them as colleagues rather than as passive recipients of knowledge. Thus, a no verbally aggressive instructor, even if he is demanding in learning dedication of the students, he may appear as suggestive and convincing rather than as imposing.

The “effective democracy” challenges the classical assumption that effectiveness and legitimization are contracting values. In this case, the instructor who seeks a concrete goals related to performance seems to be more easily regarded as “democratic” than an instructor who demands total mental dedication to the learning patterns he imposes. The performance is a measurable objective. Thus, an instructor can simply say to the students: “achieve this, in the way you wish”. If the students achieve the objective set, then both students and instructors will accept thus situation. Under this condition, the instructor abandons the role of a mental leader and behaves as

a technocrat who assigns responsibilities to the students and confines his duty mainly on output-control (performance), leaving them to select the process (“how”). On the other hand, the learning is a subjective process implying understanding, adaptiveness of thinking and deeper mental dedication. This situation does not leave any scope of action and thinking. It is rather a mental dictatorship.

It can be concluded that physical education instructors’ tendency to use negative communication techniques such as verbal aggressiveness, not only do not lead to mastery motivational climate but could additionally be harmful for their students (Martin et al. 2009). In future research, it could be examined which mechanisms formulating the relationship between instructors’ verbal aggressiveness with students’ intrinsic-extrinsic motivation, the Machiavellianism and bullying. Not only association but also causality between the variables can be explored. Thus, a longitudinal study could be a challenge for future research. Future studies could recruit larger number of students from other regions of Greece in order to increase findings’ generalizability. A more balanced and comparative sampling e.g. between rural-urban interviewees can take place. Peer influence on motivational climate and students’ satisfaction should be included in a future study.

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