

Verbally Aggressive Instructors and Machiavellian Students: Is the Socio-Communicative Style an Over-Bridging?

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Abstract

Goals of this research are: 1) to examine the role of gender, 2) to explore the relationship between perceived instructors' verbal aggressiveness, socio-communicative style and students' Machiavellian tactics, 3) to investigate the influence of instructors' verbal aggressiveness on their socio-communicative style and students' Machiavellian tactics in physical education context and 4) to propose a students' and instructors' typology which will be the final over-bridging of verbal aggressiveness and Machiavellianism through communication style. The sample consisted of 269 students (141 males, 128 females) aged 12 - 14 years old ($M = 12.6$, $SD = 0.65$) from secondary 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 perceived instructors' verbal aggressiveness, responsiveness, assertiveness and students' amoral manipulation, desire for control, desire for status, distrust of others between the genders of the students. Correlational analysis indicated that perceived instructors' verbal aggressiveness was positively related to assertiveness, amoral manipulation, desire for control, desire for status, distrust of others and was negatively related to responsiveness. The results of regression analysis revealed that perceived instructors' verbal aggressiveness could significantly predict the variables of responsiveness, assertiveness, desire for status and distrust of others. Three behavioral types are revealed: 1) the unrestraint, 2) the responsive, and 3) the distrustful, where verbal aggressiveness appears to be connected with Machiavellianism through communication style in these particular combinations.

Keywords

Verbal Aggressiveness, Socio-Communicative Style, Machiavellianism

1. Introduction

The perception of everyday communication is unpredictable. Thereby, it can sometimes be regarded as aggressive by particular individuals and by some others not. Verbally aggressive individuals are supposed to intend to cause psychological pain (humiliation, embarrassment, etc.), which sometimes leads in physical attack (Piko & Keresztes, 2006). Verbal aggressiveness is defined as attack on an individual's self-concept rather than attack to person's position on a topic of communication aiming at inflicting psychological pain to this person and often involves attacks to character or competence, physical appearance, racial features, as well as threats or teasing and cursing (Infante & Rancer, 1996). Apparently, instructors' verbal aggressiveness decreases students' participativeness (Myers, Edwards, Wahl, & Martin, 2007; Rocca, 2004), motivation and satisfaction or learning outcome (Bekiari, 2014; Bekiari & Hasanagas, 2016 a, b; Bekiari, Kokaridas, & Sakellariou, 2005; Bekiari, Koustelios, & Sakellariou, 2000; Manoli & Bekiari, 2015; Myers, 2002; Teven, 2007; Teven & McCroskey, 1997; Thweatt & McCroskey, 1998), affection in learning (Bekiari, 2012; Bekiari & Manoli, 2016; Bekiari & Tsaggopoulou, 2016; Myers et al., 2007; Schrodt, 2003; Wrench & Punyanunt-Carter, 2005), attractiveness (Bekiari & Petanidis, 2016; Syrmipas & Bekiari, 2015), communicative competence (Bekiari & Hasanagas, 2015; 2016 c; Bekiari & Sakellariou, 2003; Buford, 2010; Rocca & McCroskey, 1999), prosocial fairness (Hassandra, Bekiari, & Sakellariou, 2007), Machiavellianism (Bekiari, 2016, 2017), intrinsic discipline (Bekiari, Kokaridas, & Sakellariou, 2006; Bekiari & Pylarinou, 2017; Bekiari & Tsiana, 2016), bullying (Bekiari, Pachi, & Hasanagas, 2017) and climate in class (Bekiari & Syrmipas, 2015; Myers & Rocca, 2000). In physical education, instructors' verbal aggressiveness is perceived as less favorable for the students and restricts sportsmanship (Kassing & Infante, 1999) and credibility (Mazer, Barnes, Greivous, & Boger, 2013) and feel less motivated (Bekiari, Perkos, & Gerodimos, 2015). Bekiari, Digelidis, & Sakellariou (2006) suggested that students who participate in non-contact sports perceive their instructors as less verbally aggressive in comparison with students participating in high-contact sports. Furthermore, male volleyball players perceived somatic anxiety as higher and felt more affected by verbal aggression than female players (Bekiari, Patsiaouras, Kokaridas, & Sakellariou, 2006). There are also several studies including network analysis and typologies of verbal aggressive profiles (Bekiari & Balla, 2017; Bekiari, Deliligka, & Koustelios, 2016; Bekiari, Hasanagas, Theoharis, Kefalas, & Vasilou, 2015; Bekiari, Nikolaidou, & Hasanagas, 2017; Theoharis & Bekiari, 2016 a, b).

Another instructor-dependent parameter having an impact on students' learning outcomes is the communicative style (Andersen, Norton, & Nussbaum, 1981; Kearney & McCroskey, 1980). Communicator style is supposed to contain an individual's ability to initiate, adapt or respond to the communication with others (Norton, 1978; Thomas, Richmond, & McCroskey, 1994). Ten communicative attributes have been suggested: impression leaving, open, dramatic,

contentious, precise, dominant, friendly, relaxed, animated and attentive (Norton, 1978). Socio-communicative style is composed of two main dimensions: responsiveness and assertiveness (McCroskey & Richmond, 1996; Richmond & Martin, 1998). Assertive communicators are able to begin, maintain, and interrupt discussions according to their interpersonal goals (Thomas, Richmond, & McCroskey, 1994). These communicators act assertively speaking for themselves either to demand something or to externalize outbursts (Wheeless & Lashbrook, 1987). On the other side, responsive communicators are more sensitive to others, listen to what others have to say, take the feelings of others seriously and recognize their needs (McCroskey & Richmond, 1996). A responding communicator is characterized as a good listener, sensitive, compassionate, understanding, friendly, warm, honest and interesting. These properties are generally considered to characterize female subjects (McCroskey & Richmond, 1996; Porter, Wrench, & Hoskinson, 2007). Moreover, assertive individuals are considered to be extrovert and powerful whereas responsive individuals are regarded as trustworthy, sensitive, understanding and sociable (Kearney, 1984; Lamke, Sollie, Durbin, & Fitzpatrick, 1994; Snavelly, 1981). They also are considered to contribute to students' learning and satisfaction (Aylor & Oppliger, 2003; Wanzer & Frymier, 1999). However, independently of any communication style, unfulfilled expectations always exist and there are irreconcilable students who steadily demand their fulfilment in any possible way, even through Machiavellian tactics.

A Machiavellian person is expected to be capable of influencing other people and control them, being motivated by self-interest (Walter, Anderson, & Martin, 2005). Machiavellian persons are ideologically neutral, avoiding emotional involvement in interpersonal relations, and commitments (Dahling, Whitaker, & Levy, 2009; Mudrack & Mason, 1995). It has been supported that there is a negative relation between Machiavellian personality and conscientiousness (Paulhus & Williams 2002), as well as a positive relation with impatience and everesthisia (Aziz & Vallejo, 2007). It has been shown that features of a non-genuine person seem to be indicators of Machiavellianism (Ashton, Lee, & Son, 2000). Additionally, a relationship between moral judgments and Machiavellianism appears (Mudrack, Bloodgood, & Turnley, 2012; Pan & Sparks, 2012; Shafer & Simmons, 2008). Dahling, et al. (2009) proposed four dimensions in Machiavellianism: distrust, desire for control, desire for status and amoral manipulation. Older studies have shown that Machiavellian individuals follow offensive and dishonest way to achieve goals, they manipulate others to perform better and convince them, without being convinced by others (Christie & Geis, 1970; Zagenczyk, Restubog, Kiewitz, Kiazad, & Tang, 2014). Moreover, they tend to violate rights of others for personal interest (Zagenczyk et al., 2014) and show deviant behavior.

Innovation and Questions of Study

It can reasonably be supposed that the concepts of socio-communicative style, verbal aggressiveness and Machiavellianism have extensively been explored.

Nevertheless, Machiavellian students in physical education have not yet proved to be related with socio-communicative style and verbal aggressiveness of instructors, as perceived by students. This study aims at investigating relations among perceived socio-communicative style and verbal aggressiveness of instructor and students' Machiavellian tactics in physical education. The academic added value of this research consists in understanding deeper causes and interplay among the examined variables resulting in an over-bridging typology. The practical added value lies in detecting just in time phenomena which should be confronted.

Specifically, the following questions are expected to be answered:

- Are there any differences noted between the genders regarding verbal aggressiveness, socio-communicative style and Machiavellian tactics?
- Is there a positive or negative relationship between instructors' verbal aggressiveness as perceived by students with socio-communicative style and students' self-reports of Machiavellian tactics in physical education classes?
- To what extent the perceived instructors' verbal aggressiveness could be a significant predictor of their socio-communicative style and the students' Machiavellian tactics?
- Can students' and instructors' typology regarding parameters of verbal aggressiveness, socio-communicative style perception and Machiavellian tactics be extracted?

2. Method

2.1. Participants and Procedures

The sample of the study consisted of 269 students (141 males, 128 females) aged 12 - 14 years old ($M = 12.6$, $SD = 0.65$) from secondary public schools, Greece. All the participants were between the 1st grade (149 students) and 2nd grade (120 students) of public secondary school and belonged to different socio-economic status. All students completed questionnaires referring to the instructors' verbal aggressiveness and socio-communicative style and students' Machiavellian tactics, during their physical education lessons. The completion of questionnaires lasted for 20 - 30 minutes approximately and flowed freely. The informants participated anonymously and voluntarily. In this way, it is supposed to obtain sincere answers. Best practice rules and research ethics were observed.

2.2. Instruments

Verbal aggressiveness. The Greek version (Bekiari & Digelidis, 2015), which was used to assess physical education instructor verbal aggressiveness, relied on the theoretical framework and the Verbal Aggressiveness Questionnaire developed by Infante & Wigley (1986). Preliminary examination (Bekiari & Digelidis, 2015) supported the psychometric properties of the instrument. In particular, confirmatory factor analysis indicated satisfactory fit indices (CFI: 0.97, SRMR: 0.02), and internal consistency of the scale ($\alpha = 0.96$). 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.

Socio-communicative style. The socio-communicative style questionnaire (Richmond & McCroskey, 1990) was used to assess perceived instructors’ socio-communicative style. The scale consisted of 20 items and two factors: responsiveness (10 items, e.g. “the teacher behaves in a courteous manner during the course”, “the teacher shows responsibility towards the needs of his students”) and assertiveness (10 items, e.g. “the teacher acts as a leader during the course”, “I think he has a strong personality”). Factor analysis has demonstrated the two-dimensional structure of the instrument and the internal consistency of the subscales has been supported (from 0.88 to 0.96). Participants were asked to respond on a 5 point Likert scale (from 1 = never to 5 = often).

Machiavellianism. The Machiavellian Personality Scale (Dahling, Whitaker, & Levy, 2009), a 16-item version, included four subscales: amoral manipulation (5 items, e.g., “the teacher is willing to be unethical if he believes it will help him succeed”), desire for control (3 items, e.g., “the teacher enjoys having control over other people”), desire for status (3 items, e.g., “the teacher wants to be rich and powerful someday”) and distrust of others (5 items, e.g., “the teacher believes that people are only motivated by personal gain”). Factor analysis has demonstrated the four-dimensional structure of the instrument and the internal consistency of the subscales has been supported (from 0.70 to 0.83). Participants were asked to respond to the items based on a 5-point Likert-type scale ranging from 1 = strongly agree to 5 = strongly disagree.

2.3. Data Analysis

Data analysis included the use of the Statistical Package for Social Sciences (SPSS). The t-test for independent samples was used in order to reveal statistical significant differences between genders 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’ verbal aggressiveness could be a significant predictor of their socio-communicative style and students’ Machiavellian tactics. The level of statistical significance was set at .05. Finally, students’ and instructors’ typology regarding parameters of verbal aggressiveness, socio-communicative style and Machiavellian tactics will be formulated using principal component analysis.

3. Results

Statistically significant differences were observed in instructors’ verbal aggressiveness ($t_{1265} = 8.25, p < 0.001$), responsiveness ($t_{1265} = -4.07, p < 0.001$), assertiveness ($t_{1265} = 5.50, p < 0.001$), amoral manipulation ($t_{1265} = 3.26, p < 0.05$), desire for control ($t_{1265} = 2.11, p < 0.05$), desire for status ($t_{1265} = 4.46, p < 0.001$)

and distrust of others ($t_{1265} = 3.69, p < 0.001$) between the two genders of the students (**Table 1**).

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 responsiveness ($r = -0.441$) and a positive significant relationship between verbal aggressiveness and assertiveness ($r = 0.393$), amoral manipulation ($r = 0.376$), desire for control ($r = 0.199$), desire for status ($r = 0.307$) and distrust of others ($r = 0.458$). At the same time, **Table 2** presents the Cronbach's alpha, mean scores and standard deviations of the variables.

Linear regression analyses were conducted to examine the extent to which instructors' socio-communicative style and students' Machiavellian tactics could be predicted from the ratings of instructors' verbal aggressiveness. The results indicated that perceived instructor verbal aggressiveness could predict significant variance in socio-communicative style ($F_{(2266)} = 47.37, p < 0.001$) with an R^2 of 26.3%. Perceived verbal aggressiveness explained 10.82% of the variance in responsiveness ($\beta = -0.33, t = -6.24, p < 0.001$) and 6.81% of the variance in assertiveness ($\beta = 0.31, t = 4.95, p < 0.001$). Another linear regression analysis was conducted to predict student Machiavellian tactics based on teacher verbal aggressiveness. The results indicated that perceived instructor verbal aggressiveness could predict significant variance in Machiavellian tactics ($F_{(4264)} = 24.52, p < 0.001$) with an R^2 of 27.1%. Verbal aggressiveness explained 4.75% of the variance in students' desire for status ($\beta = 0.15, t = 4.15, p < 0.001$) and 6.97% of the variance in students' distrust of others ($\beta = 0.25, t = 5.02, p < 0.001$). The results of the regression analyses are presented in **Table 3**.

Table 1. Students' gender comparison.

Variables	Gender	N	Mean	SD	<i>t</i>	df	<i>p</i>																																																																				
Verbal aggressiveness	Males	141	3.36	0.55	8.25	267	0.000																																																																				
	Females	128	2.75	0.64				Responsiveness	Males	141	3.26	0.68	-4.07	267	0.000	Females	128	3.60	0.67	Assertiveness	Males	141	3.28	0.56	5.50	267	0.000	Females	128	2.90	0.57	Amoral manipulation	Males	141	2.64	0.70	3.26	267	0.001	Females	128	2.35	0.76	Desire for control	Males	141	1.99	0.82	2.11	267	0.036	Females	128	1.80	0.69	Desire for status	Males	141	3.77	0.99	4.46	267	0.000	Females	128	3.22	1.05	Distrust of others	Males	141	3.23	0.81	3.69	267	0.000
Responsiveness	Males	141	3.26	0.68	-4.07	267	0.000																																																																				
	Females	128	3.60	0.67				Assertiveness	Males	141	3.28	0.56	5.50	267	0.000	Females	128	2.90	0.57	Amoral manipulation	Males	141	2.64	0.70	3.26	267	0.001	Females	128	2.35	0.76	Desire for control	Males	141	1.99	0.82	2.11	267	0.036	Females	128	1.80	0.69	Desire for status	Males	141	3.77	0.99	4.46	267	0.000	Females	128	3.22	1.05	Distrust of others	Males	141	3.23	0.81	3.69	267	0.000	Females	128	2.83	0.99								
Assertiveness	Males	141	3.28	0.56	5.50	267	0.000																																																																				
	Females	128	2.90	0.57				Amoral manipulation	Males	141	2.64	0.70	3.26	267	0.001	Females	128	2.35	0.76	Desire for control	Males	141	1.99	0.82	2.11	267	0.036	Females	128	1.80	0.69	Desire for status	Males	141	3.77	0.99	4.46	267	0.000	Females	128	3.22	1.05	Distrust of others	Males	141	3.23	0.81	3.69	267	0.000	Females	128	2.83	0.99																				
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	Females	128	2.35	0.76				Desire for control	Males	141	1.99	0.82	2.11	267	0.036	Females	128	1.80	0.69	Desire for status	Males	141	3.77	0.99	4.46	267	0.000	Females	128	3.22	1.05	Distrust of others	Males	141	3.23	0.81	3.69	267	0.000	Females	128	2.83	0.99																																
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Table 2. Reliabilities, means, standard deviations and pearson correlations among variables.

	α	M (SD)	1	2	3	4	5	6	7
1) Verbal aggressiveness	0.71	2.89 (0.67)	-						
2) Responsiveness	0.79	3.42 (0.70)	-0.44**	-					
3) Assertiveness	0.70	3.08 (0.59)	0.39**	-0.33**	-				
4) Amoral manipulation	0.68	2.49 (0.74)	0.38**	-0.47**	0.32**	-			
5) Desire for control	0.69	1.90 (0.76)	0.20**	-0.32**	0.07	0.50**	-		
6) Desire for status	0.73	3.51 (0.98)	0.31**	-0.20**	0.28**	0.21**	-0.11	-	
7) Distrust of others	0.82	3.04 (0.92)	0.46**	-0.39**	0.31**	0.64**	0.26**	0.22**	-

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

Table 3. Regression analysis results according to verbal aggressiveness.

	B	95% CI B	SE	B	T
Responsiveness	-0.35	-0.23, -0.44	0.05	-0.33	-6.24**
Assertiveness	0.28	0.19, 0.43	0.06	0.31	4.95**
Desire for status	0.23	0.08, 0.22	0.04	0.15	4.15**
Distrust of others	0.35	0.15, 0.35	0.05	0.25	5.02**

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

In the **Table 4**, three behavioral types are revealed: 1) the unrestraint, 2) the responsive, and 3) the distrustful. The first type can be regarded as dominant, the second one as sociable and the third one as just cautious or weak.

4. Discussion

Goal of this study is fourfold: 1) to investigate differences between genders regarding verbal aggressiveness, socio-communicative style and Machiavellian tactics, 2) to explore the relationship between perceived physical education instructors' verbal aggressiveness and socio-communicative style as perceived by students and students' Machiavellianism, 3) to investigate the influence of instructor verbal aggressiveness on their socio-communicative style and student Machiavellian tactics and 4) to propose students' and instructors' typology which will be the final over-bridging of verbal aggressiveness and Machiavellianism through communication style. According the results, statistically significant differences were observed in all variables between the genders of the students. Verbal aggressiveness was positively related to assertiveness, amoral manipulation, desire for control, desire for status, distrust of others and was negatively related to responsiveness. Perceived instructors' verbal aggressiveness could significantly predict the variables of responsiveness, assertiveness, desire for status and distrust of others. Three behavioral types are revealed: 1) the unrestraint, 2) the responsive, and 3) the distrustful.

Table 4. Typology of behavioral patterns.

		The “unrestraint”	The “responsive”	The “distrustful”
Verbal aggressiveness	Rudeness	0.790	-0.026	-0.224
	Degrading students	0.822	0.023	-0.215
	Causing bad feeling to students	0.786	0.074	-0.170
	Mockery	0.805	-0.004	-0.202
Responsiveness	Polite behavior	-0.087	0.674	0.150
	Compassion	-0.145	0.616	0.011
	Honest behavior	-0.093	0.613	-0.102
	Willingness to help	-0.032	0.712	-0.083
Assertiveness	Acting as a leader	0.797	0.060	-0.297
	Becoming aggressive	0.803	0.064	-0.260
	Imposing his views	0.817	0.047	-0.261
Distrust of others	Back stabbing	0.782	0.085	0.531
	Exploiting weaknesses	0.777	0.072	0.557
	Exploiting the situation against others	0.733	0.080	0.611

Extraction method: Principal component analysis, 3 components extracted.

In the present study, male students seem to regard their instructors as more verbally aggressive than female ones. This is confirmed by previous research which has supported that educators are more verbally aggressive against boys than against girls (Bekiari, 2014; Bekiari & Hasanagas, 2015). Consequently, male students perceive their instructors as more verbally aggressive, assertive and autocratic than female ones. This seems to cause them more desire for amoral manipulation, desire for control, desire for status and distrust. These results are also confirmed by findings of other studies where instructors have proved to be more aggressive towards male students because of their disobedience and indiscipline during the lesson (Bekiari & Petanidis, 2016). So it is likely that the aggressiveness of the educators is the main reason why male students present more intensive Machiavellian tactics. However, the verbal aggressive attitude is obviously dissuasive for all trainees, regardless of gender (Gorham & Christophel, 1992).

The results of this study showed a positive relation of verbal aggressiveness by assertiveness, desire for control and status, amoral manipulation, distrust and a negative relation with responsiveness. This concurs with the tenor of previous research revealing that teenagers with Machiavellian behavior show weak communication within family and less satisfaction with family life (Láng & Birkás, 2015; Olson, 2000; Ryumshina, 2013). Other analyses have shown that the appearance of Machiavellianism is related with the instructors' behavior (Martin, Myers, & Mottet, 2006), since the verbal aggressiveness seems to indicate trai-

nees' Machiavellian (Bekiari, 2016), as Machiavellians use dishonest and offensive means (Christie & Geis, 1970) and tend to practice divergent behaviors (Zagenczyk et al., 2014), cheating and dominating (Talwar & Lee, 2011), as Machiavellianism can be seen as a reaction to aggressive behavior by educators (McDonald, Donnellan, & Navarrete, 2012). Finally, results are in accordance with other studies supporting that verbal aggressiveness is negatively related with students' intrinsic motivation and instructors' responsiveness (Bekiari, 2012, 2014; Bekiari, Perkos, & Gerodimos, 2015; Bekiari & Syrmpas, 2015; Hamilton & Hample, 2011) and positively related with assertiveness (Bekiari & Pylarinou, 2017). Additionally, it is revealed that instructors' personality plays a determinant role in students' behavior, emotions, tactics and attitudes (Horn, 2002; Infante & Rancer, 1996; Rancer & Avtgis, 2014). Moreover, perceived verbal aggressiveness proved to be the most important predictor of students' Machiavellianism, which is in accordance with previous findings showing that instructors' verbal aggressiveness is positively related with students' Machiavellian tactics, such as amoral manipulation, desire for status, desire for control, distrust and antisocial fair play behaviors, such as gamesmanship and cheating (Bekiari, 2017; Hassandra, Bekiari, & Sakellariou, 2007). According to Láng & Lénárd (2015), the negative climate at home and loneliness seem to be negatively correlated with Machiavellianism while punishment seems also to foster Machiavellianism. Thus, Machiavellianism can also be regarded as a reaction to inconveniences in childhood (McDonald, Donnellan, & Navarrete, 2012). This seems to be supported in case of corporal punishment (Waller, Gardner, Hyde, Shaw, Dishion, & Wilson, 2012). Machiavellianism in childhood can also be a reaction to authoritarianism (Talwar & Lee, 2011) while in adults it may be correlated with hostile attitudes and emotions (Locke & Christiensen, 2007) as well as with verbal aggressiveness (Andreou, 2004; Bereczkei, 2015; Corzine & Hozier, 2005). On the contrary, Cranmer & Martin (2015) argue that morality is negatively correlated with Machiavellianism.

Moreover, in this study, three behavioral types are revealed: 1) the unrestraint, 2) the responsive, and 3) the distrustful. The first type can be regarded as dominant, the second one as sociable and the third one as just cautious or weak. The unrestraint type is someone who freely externalizes his verbal aggressiveness, offending self-perception of others. Simultaneously, he remains assertive reducing any scope of disputing action. Additionally, he appears to be invulnerable toward any emotion- or trust-based manipulation, as he is both amoral and distrustful. In other words, a combination of aggressiveness and defensiveness is the behavioral profile of the unrestraint type. It could be regarded as a type aiming at absolute dominance. The responsive type just consists of dimensions of responsiveness. This type points out the conceptual purity and independence of the responsiveness. In contrast to the unrestraint type, who consists of various behavioral dimensions, the responsive type is exclusively confined on the responsiveness to others, without combining this with any dimension of verbal aggressiveness, assertiveness, amorality or distrustfulness. Thus, responsiveness

seems to be fully independent of any dominance pattern. It rather seems to be an expression of pure communicativeness and sociability. Finally, the distrustful type appears to be the plainest one as it consists in only one dimension of distrustfulness. Thus, it rather seems to express a slightly defensive and cautious or even coward and weak type than a type susceptible to dominance or sociability, as the restraint and responsive type. Such typologies have also been suggested in previous researches (Bekiari, Deliligka, & Hasanagas, 2017; Bekiari & Pachi, 2017; Bekiari & Spyropoulou, 2016; Hasanagas & Bekiari, 2015, 2017; Hasanagas, Bekiari, & Vasilos, 2017; Theoharis & Bekiari, 2017 a, b; Theoharis, Bekiari, & Koustelios, 2017).

A normative suggestion on the basis of the particular empirical findings is that physical education instructors should avoid adopting verbal aggressive behavior, as Machiavellianism is enhanced by aggressiveness, superficial obedience, unfairness and antisocial fair play behaviors. Instead, instructors should adopt a responsive communicator style, which favors the supportive classroom climate, self-confidence and motivation. Responsiveness is considered to enhance flexibility, cohesion and moral development. Furthermore, responsiveness refers to the degree in which communication reflects sensitivity to students and their feelings, including cases of helpfulness, sympathy, compassion, sincerity, sensitivity, gentleness, warm behavior, friendliness and tenderness (Allen, Long, O'Mara, & Judd, 2008). In addition, instructors who use the characteristics of friendliness, diligence and comfort of the communication style are considered to be more lovable than students (Potter & Emanuel, 1990). It can thus be expected that responsiveness acts as an over-bridging between verbal aggressive instructors and Machiavellian students.

In sum, when instructors adopt a verbally aggressive and assertive communication, it seems that they decrease the probability to appear amoral manipulation, desire for status, desire for control and distrust during physical education lessons. The results of the study highlight the demand for improvement in physical education instructor in order to respond to a challenging and constantly changing field. This study not only contributes to our understanding of factors associated with students' Machiavellian tactics but also corroborates the results produced by previous studies. Moreover, as the communication is a vital function of student learning (Frymier & Houser, 1997), future research can be conducted on the student-instructor interaction, especially focusing on the instructors' communicative attributes (i.e. argumentativeness, verbal aggressiveness, communicative style) associated with students' Machiavellianism. The restricted sample is a limitation of this research and thus, it constitutes a challenge for future research. Simultaneously, more parameters can be analyzed in future.

5. Conclusion

Male students perceive their instructors as more verbally aggressive, assertive and autocratic than female ones. This seems to cause them more desire for

amoral manipulation, desire for control, desire for status and distrust of others. When instructors adopt a verbally aggressive and assertive communication, it seems that they decrease the probability to appear amoral manipulation, desire for status, desire for control and distrust during physical education lessons. Perceived verbal aggressiveness proved to be the most important predictor of responsiveness, assertiveness, desire for status and distrust. Three behavioral types are revealed: 1) the unrestraint (a combination of aggressiveness and defensiveness), 2) the responsive (an expression of pure communicativeness and sociability), and 3) the distrustful (just cautious or weak type than a type susceptible to dominance or sociability). Instructors should adopt a responsive communicator style, which favors the supportive classroom climate, self-confidence, motivation, as responsiveness is considered to enhance flexibility, cohesion and moral development. It can thus be expected that responsiveness acts as an over-bridging between verbal aggressive instructors and Machiavellian students.

Conflicts of Interest

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

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