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## ORIGINAL

### TEACHING STYLE IS KEY FOR A LOWER PERCEPTION OF VIOLENCE IN PHYSICAL EDUCATION

### ESTILO DOCENTE, CLAVE PARA UNA MENOR PERCEPCIÓN DE VIOLENCIA EN EDUCACIÓN FÍSICA

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#### ABSTRACT

The goal of this study was to determine if students perceived less school-based aggression and violence when the students had more self-determined

motivational profiles and more favorable perceptions of instructor autonomy support from their Physical Education teacher. Participants were 452 adolescent students between 13 and 16 years old ( $M = 14.7$  yrs.,  $SD = 1.05$  yrs.). After the completion of the questionnaires and coding of the responses, a cluster analysis and multivariate analysis (MANOVA) were conducted. These analyses provided support for the existence of three motivational profiles which were labeled "high self-determined", "moderate self-determined", and "low self-determined" with reference to the continuum of motivational types in self-determination theory. The "high self-determined" profile students had a lower perception of school-based aggression and violence and perceived greater autonomy support from their instructors and also reported greater psychological need satisfaction in the academic context. In conclusion, autonomy-supportive instructional practices can contribute to a lower perception of school-based aggression and violence and greater psychological need satisfaction in students in Physical Education classes.

**KEY WORDS:** violence, self-determination theory, perceived autonomy, values education.

## RESUMEN

Este estudio tuvo como objetivo comprobar si la menor percepción de violencia escolar en adolescentes se asociaba con perfiles motivacionales más autodeterminados y con el estilo interpersonal del docente de Educación Física. Participaron 452 estudiantes de entre 13 y 16 años ( $M = 14.7$ ;  $DT = 1.05$ ). Tras la recogida de datos, se realizó un análisis multivariante (MANOVA) y un análisis de perfiles, confirmándose la existencia de tres perfiles motivacionales: "alta motivación autodeterminada"; "moderada" y "baja motivación autodeterminada". Como principales resultados destacar que el grupo con alta motivación autodeterminada presentó valores inferiores en la percepción de violencia escolar y superiores en el estilo docente de apoyo a la autonomía y la satisfacción de las necesidades psicológicas básicas. Se concluye que una menor percepción de la violencia escolar en los estudiantes puede venir dada por la utilización de un estilo interpersonal del docente de educación física de apoyo a la autonomía.

**PALABRAS CLAVE:** violencia, teoría de la autodeterminación, autonomía percibida, educación en valores.

## 1. INTRODUCTION

In the educational setting, the issue of school-based violence is a major source of concern through its various manifestations. These manifestations include effects on the teaching/learning process as well as upon instructor/student relationships and relationship quality among students themselves (Aparicio, 2009). Young people are influenced by social models that serve as their frame of reference and, although parental behavioral practices can be considered to be the most important (Martínez, Fuentes, Ramos & Hernández, 2003),

relationships formed by young people with peers and significant adults in the educational context can also be extremely influential. In recent years, there has been increasing recognition within educational and sociocultural environments that physical activity and sport settings represent important contexts within which young people can learn desirable behavioral practices (García, Aibar, Sevil, Almada & Julián, 2015).

Physical Education is an educational medium that allows for the promotion and development of those positive values that underlie the person's character and personality, and provides young people with opportunities to learn, and act upon, the new behavioral opportunities that are available to them (Flores & Zamora, 2009). Consequently, it is essential that students have favorable relationships with their peers and with their instructors in the educational setting (León, Felipe, Gómez & López 2011). In this regard, the Physical Education classroom is an educational meeting space of obvious and direct importance since aspects of participation in Physical Education often directly impact upon self-image and provide the context in which much of observed and personally experienced school-based aggression can occur (Gómez-Mármol, Sánchez-Alcaraz, Molina-Saorín & Bazaco, 2017). At the same time, certain physical activities, such as martial arts among others, can be used by students to learn more desirable behavioral patterns and to reduce the perception of aggression, particularly among primary school-aged children (Cascales & Prieto, 2019).

With regard to the preceding considerations, a large number of research studies have attempted to identify the influence of the instructor and their instructional style on student learning, motivational and behavioral outcomes (López, Valero-Valenzuela, Anguera & Díaz, 2016; Sánchez, Álvarez, Manzano, Gómez & Mayor, 2017; Zamarripa, Castillo, Tomás, Tristán & Álvarez, 2016). In this regard, the study by Aguado-Gómez, Díaz-Cueto, Hernández-Álvarez and López-Rodríguez (2016), highlights that is essential to keep in mind the influence of instructor behaviors in that the perceived instructional style varies greatly across professors and can impact student outcomes. Other interesting lines of research have addressed the role of the instructor in implementing pedagogical models to reduce school violence (Sánchez-Alcaraz, Ocaña-Salas, Gómez-Mármol & Valero-Valenzuela, 2020). In relation to this topic, Gómez, Sánchez-Alcaraz, Valero and De la Cruz (2018), have noted that it is important to keep in mind that levels of school-based aggression and violence vary as a function of the level of education and in relation to the school context, among other factors.

Deci, Schwartz, Scheinman and Ryan (1981) have proposed that teachers' instructional styles can be conceptualized as existing along a continuum that ranges from total control of the decision-making process by the instructor to the provision of high levels of student responsibility and autonomy. These same researchers have proposed that allowing students to have greater control and autonomy will result in a better classroom climate such that students will be more willing and ready to engage in their school work and will benefit through increased satisfaction of their basic psychological needs (BPNs) and are, therefore, more likely to demonstrate greater self-determined motivation. Quiles, Moreno-Murcia and Lacárcel (2015) have shared a similar perspective

in that they argue that the instructor's approach to motivation influences the student's own motivation and contributes to creative thought and the development of knowledge, skills, attitudes and values that are of academic and personal benefit.

There also exists support for the presence of a positive relationship between instructor autonomy support and student basic psychological need satisfaction. In contrast, a controlling style has been found to be related to burnout (Gurrola, Rodríguez, Walle, Marco & Zamarripa, 2016). In this regard, the use of innovative pedagogical methodologies by Physical Education instructors can contribute to student psychological need satisfaction and increase their level of personal responsibility (Valero-Valenzuela, López, Moreno-Murcia & Manzano-Sánchez, 2019) while potentially reducing tendencies toward aggression (Courel-Ibáñez, Sánchez-Alcaraz, Gómez-Mármol, Valero-Valenzuela & Moreno-Murcia, 2019). Although there has been a conceptual linkage between instructional variables and school-based aggression and violence outcomes, to date there has been little empirical research to examine these relationships. As such, there are benefits to pursuing this line of research given the potential benefits in practice.

The present study was designed for the purpose of assessing whether more autonomy-supportive teaching styles on behalf of instructors and more self-determined profiles among adolescent students would be associated with a lower perception of school-based aggression and violence. It was also anticipated that more self-determined motivational profiles and stronger perceptions of autonomy support and psychological need satisfaction would lower perceptions of school-based aggression in students.

## **2. MATERIALS and METHODS**

### **2.1. PARTICIPANTS**

The final sample of participants consisted of 452 students in Obligatory Secondary Education from 8 public educational centers in an urban municipality in the southeast of Spain. The participants ranged in age from 13 to 16 years ( $M = 14.7$  yrs.;  $SD = 1.05$  yrs.) with the sample comprised of 50.4% girls ( $n = 228$ ) and 49.6% boys ( $n = 224$ ). The sample was intentionally selected for the current study as opposed to being completely random for accessibility reasons.

### **2.2. INSTRUMENTS**

**2.2.1 Controlling instructional style.** The Controlling Style Scale developed by Moreno-Murcia, Huéscar, Andrés and Sánchez-Latorre (in press) was used to assess the extent to which instructors employ controlling styles in their classrooms. The instrument is comprised of nine items to which the students respond in relation to the instructional style of their teacher or sport trainer (e.g., "S/he speaks continually and does not let us make contributions in class"). The preceding stem phrase to these questions is, "In my classes of Physical Education, my instructor..." The response format involves a 5-item response

structure anchored by “*Definitely not true*” to “*Definitely true*” at the two ends of the response continuum. The Cronbach value internal consistency of this instrument was  $\alpha = .80$ .

**2.2.2 Autonomy support.** The *Scale of Autonomy Support* (Moreno-Murcia et al., in press) was used in the assessment of the instructor autonomy support variable. The instrument is comprised of eleven items to which students respond in relation to the behavior of their instructor or sport trainer in their classes. A sample item is, “With his/her explanations, they help us to understand the purpose of the activities that we are engaged in”. The stem phrase preceding each item is, “In my classes of Physical Education, my instructor...” The response format consists of a five-item Likert-type structure with endpoints of (1) “*Definitely not true*” to (5) “*Definitely true*”. The assessment of the scale’s internal consistency revealed a Cronbach  $\alpha = .80$ , indicating good intrascale reliability among the items comprising the scale.

**2.2.3 Basic psychological need satisfaction (BPNs).** The *Psychological Need Satisfaction in Exercise Scale (PNSE)*: Wilson, Rogers, Rodgers & Wild, 2006) was used in this study in its Spanish language and validated version (Moreno-Murcia, Martínez-Galindo & Conte, 2011). The *PNSE* contains 18 items, with six items addressing each of the three basic psychological needs including: competence (e.g., “I feel confident that I can do even the most challenging exercises”); autonomy (e.g., “I feel like I have a say in choosing the exercises that I do”); and relatedness (e.g., “I feel attached to my classmates because they accept me for who I am”). The stem phrase for the initiation of each response is: “In my Physical Education classes...” and the instrument uses a 7-point Likert-type format with endpoints of 1 (*False*) to 7 (*True*). Internal consistency estimates revealed Cronbach alpha values of .88, .72 and .76, respectively, across the three subscales.

**2.2.4 Motivation.** To assess motivation, the *Behavioral Regulation in Sport Questionnaire (BRSQ)*: Lonsdale, Hodge & Rose, 2008) was used in its validated Spanish version (Moreno-Murcia et al., 2011). The instrument consists of 36 items that are grouped across 9 factors with four items comprising each factor. The stem phrase for each question is, “I participate in my physical activity/sport...” Subscales assess general intrinsic motivation, (e.g., “Because I believe that exercise is enjoyable”); intrinsic motivation to know; intrinsic motivation to experience stimulation; intrinsic motivation to accomplish; integrated regulation; identified regulation (“Because I value the benefits of physical exercise; introjected regulation (“Because I feel guilty when I am not active”); external regulation (“Because others tell me I should do it”); and amotivation (“I don’t know why I should do exercise”). The instrument employs a 7-point Likert-type scale ranging from 1 (*Very false*) to 7 (*Very true*). The internal consistency of the individual subscales were .90, .87, .88, .88, .90, .85, .83, .83, and .81, respectively.

**2.2.5 Perception of school violence.** To assess students’ perceptions of school violence in their educational center, the *Cuestionario de Violencia Escolar Cotidiana (CUVECO)*: Questionnaire of Daily School Violence) developed by Baena, Torres, De la Morena, Espejo and Cañete (2011) was

employed. This instrument consists of 14 items that assess two dimensions: personal experiences with violence (including physical aggression, verbal aggression and psychological suffering) and observed aggression and violence, which consists of those aggressive and violent behaviors that the person has observed among their peers in their educational environment. The introductory stem phrase to each question is, "Respond if, in this course or in your classroom, the following has occurred..." and eight items related to violence personally suffered and six items related to violence observed are included. A Likert-type scale using a response range of 1 to 5 (1 = *Never* to 5 = *Always*) was used. An internal consistency level of  $\alpha = .85$  was found for each subscale.

### **2.3. PROCEDURE**

A cross-sectional descriptive design (Montero León, 2007) was used in this study. Prior to the initiation of the research, informed consent was provided by the students and their parents through the Ethics Committee of the University of Murcia (1403/2016). The questionnaires were administered in the presence of the principal investigator and the Physical Education instructor in a calm environment. The process took approximately twenty minutes to complete. Anonymity and protection of participants' responses and data were clearly communicated to the participants.

### **2.4. Data Analysis**

At the initial phase of the data analysis, descriptive analyses of the data were conducted that included assessments of variable means and standard deviations, as well as normality estimates and bivariate correlation analyses. Internal consistency of the instrument was assessed through Cronbach's alpha value. For the identification of the unique profiles of individuals within the sample, a cluster analysis was performed using two forms of Ward's agglomerative method (Hair, Anderson, Tatham & Black, 1999) which included the variables included in the *BRSQ* relative to the different types of motivation. Each emerging cluster was then examined through multivariate analysis (*MANOVA*) and compared with the variable means for the overall sample. Univariate *F* tests were subsequently conducted to examine differences in means for the variables included with post-hoc Bonferroni tests utilized as a follow-up when significant group differences were identified. Effect sizes were computed to determine the magnitude of differences across the variables among cluster profiles. Cohen (1988) interpreted the magnitude of effect sizes as small ( $\eta_p^2 = .20$ ), medium ( $\eta_p^2 = .50$ ) or large ( $\eta_p^2 = .80$ ) and these criteria were used in the present study. All statistical analyses were conducted using SPSS 24.0® or Amos 24.0® software.

## **3. RESULTS**

### **3.1. DESCRIPTIVE ANALYSES AND BIVARIATE CORRELATIONS**

Table 1 presents the descriptive findings for the variables of interest in this study. At the global level, autonomy-supportive teaching styles were more

commonly perceived by students than were controlling styles. In terms of the basic psychological needs, the variables of competence, relatedness and autonomy were rated from highest to lowest. With regard to the students' motivational characteristics, intrinsic motivation and identified regulation were higher than were introjected regulation, external regulation and amotivation and the overall pattern reflected a more general tendency toward self-regulated forms of motivation. Students reported higher levels of observed aggression and violence than of personally experienced aggression and violence. Most bivariate correlations were significant at the  $p < .01$  level.

**Table 1.** Descriptive statistics, Cronbach's alpha coefficient and bivariate correlations among the variables.

	<i>M</i>	<i>SD</i>	<i>S</i>	<i>K</i>	$\alpha$	1	2	3	4	5	6	7	8	9	10	11	12	13	
1 Autonomy support	3.74	.72	-.70	.43	.80	-	.37**												
2 Controlling style	2.48	.68	.20	-.31	.80			-.12*	-.02										
3 Competence	4.74	1.09	-.87	.35	.88				.39**	.45**	.59**	.41**	.03						
4 Autonomy	3.74	1.09	-.15	-.29	.72					.30**	.25**	.24**	.08	.04					
5 Relatedness	4.63	.83	-.76	.63	.76						.29**	.23**	.03	-.07					
6 Intrinsic Motivation	4.12	.86	-.79	-.13	.90							.60**	.07						
7 Identified Regulation	3.69	.74	-.54	.43	.85								.27**	-.09					
8 Introjected Regulation	2.63	1.11	.16	-.83	.83									.35**	.03	.06	.01		
9 External Regulation	1.94	.95	.94	.19	.83										.48**	.18**	.06		
10 Amotivation	1.66	.93	1.45	1.28	.81											.24**	.16**		
11 Experienced violence	1.36	.51	1.97	5.33	.85													.50**	
12 Observed violence	1.87	.84	1.11	.94	.85														
13 IAD	6.31	3.86	-.84	-.07	.79														

Note. \*\* $p < .01$ ; \* $p < .05$ ; *M* = Mean; *SD* = Standard deviation; *S* = Skewness; *K* = Kurtosis;  $\alpha$  = Cronbach alpha value.

### 3.2. CLUSTER ANALYSIS

All mean values for variables in the clusters were standardized in the form of a *z* statistic in order to express the magnitude of the variation from the overall mean for each cluster in relation to the overall sample. No *z* values exceeded 3.0, which indicated that there were no outlying variable values in the sample. At the subsequent step, the univariate distribution of each variable was assessed for normality and then cluster groupings were conducted. The resulting dendrogram provided support for the logic of a three cluster solution based upon the agglomeration coefficients that were obtained from the 3-group solution (see Table 2). Emerging profiles were labeled "high self-determined" ( $n = 232$ ), "moderate self-determined" ( $n = 133$ ) and "low self-determined" ( $n = 87$ ). *Z* score differences of .50 or greater on any given variable were used as the criteria to identify meaningful differences between the value for a given cluster relative to the sample as a whole (Wang & Biddle, 2001). The "high self-determined" profile demonstrated higher values on intrinsic motivation and

identified regulation and lower levels of external regulation and amotivation than did the sample as a whole.

**Table 2.** Means, standard deviations, and z scores for each cluster.

Variables	Cluster 1 "High self-determined" (n = 232) 51.3%			Cluster 2 "Moderate self-determined" (n = 133) 29.4%			Cluster 3 "Low self-determined" (n = 87) 19.2%			F	$\eta_p^2$
	M	SD	Z	M	SD	Z	M	SD	Z		
Intrinsic motivation	4.75 <sup>a</sup>	0.33	.73	3.74 <sup>b</sup>	.60	-.44	3.02 <sup>c</sup>	.72	1.28	411.315**	.647
Identified regulation	4.06 <sup>a</sup>	.57	.51	3.46 <sup>b</sup>	.60	-.31	3.03 <sup>c</sup>	.71	-.89	103.560**	.316
Introjected regulation	2.56 <sup>b</sup>	1.22	.06	2.62 <sup>b</sup>	.98	-.01	2.82 <sup>a</sup>	.99	.17	1.781	.008
External regulation	1.52 <sup>c</sup>	.74	.44	2.11 <sup>b</sup>	.93	.18	2.80 <sup>a</sup>	.82	.90	82.140**	.268
Amotivation	1.09 <sup>c</sup>	.20	.62	1.68 <sup>b</sup>	.63	.02	3.18 <sup>a</sup>	.80	1.62	532.221**	.703

Note: \* $p < .05$ ; \*\* $p < .01$ ; M = Mean; SD = Standard deviation; Z = standardized z score; Post-hoc (Bonferroni):  $p < .001$ , a > b > c.

### 3.3. ANALYSIS OF GROUP DIFFERENCES

In order to examine the characteristics of each motivational profile, a multivariate analysis of variance (MANOVA) was conducted. In this analysis, the different clusters served as independent variables and the variables of autonomy, controlling style, violence experienced, violence observed, autonomy, competence, and relatedness served as the dependent variables (Table 3).

**Table 3.** Multivariate analysis of instructional characteristics, school-based violence and basic psychological needs in relation to clusters

Variables	Cluster 1 "High self-determined" (n = 232) 51.3%		Cluster 2 "Moderate self-determined" (n = 133) 29.4%		Cluster 3 "Low self-determined" (n = 87) 19.2%		F	$\eta_p^2$	
	M	SD	M	SD	M	SD			
Autonomy support	3.94 <sup>a</sup>	0.66	3.59 <sup>b</sup>	0.65	3.45 <sup>b</sup>	0.80	19.941**	.086	
Controlling style	2.31 <sup>c</sup>	0.68	2.56 <sup>b</sup>	0.65	2.79 <sup>a</sup>	0.61	15.688**	.074	
Violence experienced	1.29 <sup>b</sup>	0.43	1.33 <sup>b</sup>	0.49	1.59 <sup>a</sup>	0.66	6.031**	.051	
Observed violence	1.75 <sup>b</sup>	0.79	1.85 <sup>b</sup>	0.80	2.21 <sup>a</sup>	0.92	13.080**	.042	
Competence	5.27 <sup>a</sup>	0.82	4.39 <sup>b</sup>	0.91	3.86 <sup>c</sup>	1.20	148.042**	.275	
Autonomy	3.94 <sup>a</sup>	1.18	3.57 <sup>b</sup>	0.92	3.49 <sup>b</sup>	0.97	18.299**	.034	
Relatedness	4.80 <sup>a</sup>	0.79	4.55 <sup>b</sup>	0.80	4.32 <sup>b</sup>	0.87	16.157**	.052	
Wilk's $\Lambda$								.649**	
Multivariate F								13.316**	

Note: \*\*  $p < .01$ ; M = Mean; SD = Standard deviation. Post-hoc (Bonferroni):  $p < .001$ , a > b > c.



The analyses revealed differences among the clusters (Wilk's  $\Lambda = .649$ ,  $F_{(2,143)} = 13.316$ ,  $p < .01$ ), specifically in levels of autonomy support ( $F = 19.941$ ,  $p < .01$ ,  $\eta_p^2 = .086$ ), controlling style ( $F = 15.688$ ,  $p < .01$ ,  $\eta_p^2 = .074$ ), violence experienced ( $F = 6.031$ ,  $p < .01$ ,  $\eta_p^2 = .051$ ) violence observed ( $F = 13.08$ ,  $p < .01$ ,  $\eta_p^2 = .042$ ), competence ( $F = 148.042$ ,  $p < .01$ ,  $\eta_p^2 = .275$ ), autonomy ( $F = 18.299$ ,  $p < .01$ ,  $\eta_p^2 = .034$ ) and relatedness ( $F = 16.157$ ,  $p < .01$ ,  $\eta_p^2 = .052$ ). The most notable differences in variable means across groups was for the "high self-determined" group in relation to their autonomy levels compared to the rest of the sample. The "low self-determined" group was notable for their higher values corresponding with controlling style, violence experienced, and violence observed relative to the overall sample.

The analysis of cluster group differences revealed differences with respect to the variables of interest in this study and, specifically, in the characteristics of the three clusters. Our findings revealed that the "high self-determined" cluster had the highest corresponding levels of autonomy support and reported higher values for satisfaction of the basic psychological needs of competence, autonomy, and relatedness relative to the "moderate self-determined" and "low self-determined" cluster profiles. For the variable of competence, the "moderate self-determined" group reported significantly higher levels of competence than did the "low self-determined" group. The "low self-determined" group had higher levels of personally-experienced violence and observed violence and reported more controlling teaching styles. In addition, the "moderate self-determined" cluster individuals reported higher levels of instructor controlling style than did the "high self-determined" profile (see Table 3).

#### **4. DISCUSSION**

The purpose of the present study was to examine whether lower perceptions of school violence in adolescents were associated with more self-determined motivational profiles. In addition, the influence of instructional style (controlling or autonomy-supportive) was also examined in relation to effects upon school violence perceptions. Three motivational profiles were identified through the cluster analysis and were labeled "high self-determined", "moderate self-determined" and "low self-determined".

The obtained findings revealed that the "high self-determined" motivational profile was positively related to instructor autonomy support and the satisfaction of student basic psychological needs. These findings are generally consistent with recent research by Gurrola and colleagues (2016) with soccer players in that a similar relationship was found between players' perceptions of autonomy support and their psychological need satisfaction. Conversely, frustration of basic psychological needs in these players was related to burnout. Along the same line, Friedrich, Oenema, Bolman and Lechner (2015) found that greater levels of perceived autonomy support was related to a stronger interest in healthy behavioral practices. Haerens and colleagues (2018), in their study of Physical Education students, similarly identified a positive relationship among an autonomy-supportive instructional style, intrinsic motivation and the satisfaction of students' basic psychological needs.

In keeping with this logic and in relation to the profiles that emerged in the present study, Moreno-Murcia, Ruiz and Vera (2015) and Fin, Baretta, Moreno and Junior (2017), have similarly concluded that a more self-determined motivational profile in school overall, and in Physical Education classes, specifically, results for students who perceive greater instructor autonomy support and have higher levels of basic psychological need satisfaction. In turn, these researchers also found that individuals report greater satisfaction in Physical Education and engage in more physical activity than do their peers who perceive less instructor support for autonomy. In a recent study by Burgueño, Cueto-Martín, Morales-Ortiz and Medina-Casabon (2020), the researchers found that higher levels of intrinsic motivation and integrated regulation were present for students when instructors promoted a task-oriented motivational climate from the same Sport Education approach that was utilized in this study. In this regard, the students that perceived themselves to be part of a team felt a stronger sense of personal capacity and demonstrated greater effort, which are crucial elements linked to success and enjoyment in PE.

The research conducted by Moya-Mata and Ros (2019) contrasted autonomy-supportive and controlling instructional styles in Physical Education and provided insight into the beneficial outcomes that can ensue when the traditional controlling teaching styles are displaced by more student supportive approaches. In the present study, it was found that more controlling styles were negatively related to feelings of self-determination in the participating students and positively associated with aggression and violence experienced and observed in the school setting. These findings further highlight the ways in which autonomy-supportive instruction can contribute to influencing positive self-image in adolescents (Gómez-Mármol et al., 2017) and reduce the possibility of burnout syndrome (Gurrola et al., 2016). In a cross-cultural study conducted by Ruiz-Juan, Baños, Fuentesal-García, García-Montes and Baena-Extremera (2019) with a sample size of 2618 Physical Education students ages 11 to 16 years in Costa Rica, México and Spain, the researchers found stronger perceptions of a learning climate as shaped by instructors of Physical Education among these participants. Baena-Extremera and Granado-Gallego (2015) had previously found that a mastery or task climate facilitated by the instructor resulted in favorable behavioral outcomes and higher levels of enjoyment and satisfaction, as well as increased intrinsic motivation, among these students.

This study has provided further evidence for the benefits of autonomy-supportive instructional styles in the school environment. In this case, instructor autonomy support of student learning efforts can make the important additional contribution of reducing school-based violence (Courel-Ibañez et al., 2019; Sánchez-Alcaraz et al., 2020; Valero-Valenzuela et al., 2019). In the present study, the autonomy-supportive instructional style has been found to be positively related to more self-determined motivational profiles for students and lower levels of observed and personally experienced forms of aggression and violence in the school setting.

With regard to the limitations of this study, it should be noted that the sample selected was one of convenience rather than truly random in nature, which

could compromise the external validity of the study. The data collected was also gained through a cross-sectional design and longitudinal designs, or at least quasi-experimental designs, would be recommended in future research as would larger participant samples. The trustworthiness of the data also depends upon the extent to which “social desirability effects” were not present for the respondents.

## 5. CONCLUSIONS

Higher levels of student self-determination along with greater levels of intrinsic motivation were positively related to perceived instructor autonomy support for students in the classes of Physical Education. The more self-determined profiles also were associated with a higher level of satisfaction of basic psychological needs and lower levels of experienced aggression and violence and observed aggression and violence at the school level. It is thus advisable that Physical Education instructors promote a climate that provides autonomy support for their students in the classroom with the goal of strengthening feelings of competence, autonomy and relatedness among students and to reduce the incidence of aggressive and violent actions in the school setting.

## 6. PRACTICAL APPLICATIONS

With respect to previous work that has been conducted and in relation to the findings from the present study, it is proposed that the use of autonomy-supportive instructional styles can have important benefits for students in the learning process. Specifically, an approach in which the instructor assumes the role of “facilitator” of student learning experiences and adopts methodological strategies that a) provide affective feedback related to student movement activities; b) provide student learning opportunities as *challenges* to accomplish; c) provide attainable goals and objectives that are tailored to the levels of cognitive and biological maturation of the participants; d) employ “opportunities for didactic games” (games with the educational intent of reinforcing PE curricular content) that motivate participation and are enjoyable within the PE class setting; e) employ pedagogical models such as the Model of Personal and Social Responsibility (MPSR) (Hellison & Wright, 2003) or cooperative learning activities that strengthen group cohesiveness and contribute to the active engagement of class members in decision-making process and methodological aspects of the learning sessions.

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