



# Motivational Teaching Style in Physical Education: How does it affect students' experiences?

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## Abstract

Following self-determination theory, the objective of this study was to analyse whether pupils' perception of support to basic psychological needs (autonomy, competence and relatedness) and teachers' controlling style (internal and external) predict pupils' experience in physical education classes. A total of 942 Compulsory Secondary Education (CSE – aged 12 to 16) and *Bachillerato* (post-16 pre-Uni stage) students participated ( $M = 14.37$ ;  $SD = 1.55$ ; 50.3% girls and 49.7% boys). The results showed that support to relatedness was a positive predictor of pupil experiences, whereas the internal controlling style was a negative predictor. Pupils who experienced "very bad" and "bad" experiences presented the lowest values of perception of support to basic psychological needs and the highest internal and external controlling style values, whereas the opposite occurred in pupils who reported "very good" experiences. These findings underline that it is important that physical education teachers use a motivational style which supports the three basic psychological needs and that they avoid using a controlling style in order to generate more positive experiences in their pupils.

**Keywords:** basic psychological needs, controlling style, secondary education, self-determination theory, teaching style

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## Introduction

Regularly performing physical activity (PA) has multiple benefits for young people's health. However, most adolescents do not fulfil the recommendations of doing moderate-to-vigorous intensity PA (at least 60 minutes a day in children and adolescents aged between 5 and 17 years, WHO, 2010). For example, a recent study conducted in 146 countries showed that 81% of young people aged between 11 and 17 years did not fulfil these international recommendations (Guthold et al., 2020). Among the factors that influence the performance of PA, a number of studies have shown that positive pupil experiences (enjoyment, learning, predisposition, etc.) in physical education (PE) classes may help to improve their intention to be more active outside the classroom. By contrast, negative experiences (boredom, incompetence, frustration, etc.) in this context may lead them to give up doing physical activity and sports (Beltrán-Carrillo et al., 2012; White et al., 2020). Therefore, in their motivational style PE teachers may prove to be a fundamental part in triggering positive experiences in pupils in PE classes (Vasconcellos et al., 2019). These experiences could have an indirect impact on the increase in PA levels inside and outside the PE class (Hollis et al., 2017; Slingerland and Borghouts, 2011).

On this point, self-determination theory (SDT) (Deci & Ryan, 1985), one of the most deeply-rooted theoretical frameworks in the educational setting in explaining human behaviour, posits that there are three basic psychological needs (BPN): autonomy, competence and relatedness, which are indispensable in improving pupil motivation and consequently the development of positive consequences in PE classes (Ryan & Deci, 2017). In the educational setting, pupils satisfy their autonomy when they feel that they themselves are the source of their actions, their competence when they feel that they are effective in the proposed activities and relatedness when they feel part of the group (Ryan & Deci, 2017). According to SDT, PE teachers through a motivational teaching style based on supporting the three BPN may bring an influence to bear upon the satisfaction of these needs (Vasconcellos et al., 2019) since they can support their pupils' autonomy when they allow them to take decisions in the teaching and learning process. In the same way, they can support their competence by using interactive feedback which enables them to identify the rules of action of the proposed motor situations. Finally, they can support relatedness when they build an atmosphere that is conducive to promoting pupils' positive interaction and integration. In this respect, a number of studies have demonstrated that support by the teacher to the three BPN can trigger increased satisfaction and a broad range of positive consequences in their pupils (enjoyment, learning, the

intention to be active, etc.) (Pérez-González et al., 2019; Valero-Valenzuela et al., 2020; Vasconcellos et al., 2019).

However, learners' BPN can also be frustrated in PE classes. For example, their autonomy may be frustrated when they perceive pressure and alienation in the exercises they do. Their need for competence may also be frustrated when they have a feeling of inferiority and failure in successfully performing tasks. Finally, students who feel rejected by or barely integrated with their classmates might perceive that their need for relatedness is frustrated (Ryan & Deci, 2017). The use of a controlling style by PE teachers is positively related to the frustration of these three BPN in pupils (Vasconcellos et al., 2019). According to some authors (Burgueño et al., 2021; De Meyer et al., 2016; Soenens & Vansteenkiste, 2010), PE teachers' controlling style may take two different forms: internal and external. The former refers to the behaviours and attitudes of teachers who seek to trigger feelings of anxiety, shame or embarrassment and blame in pupils (Soenens & Vansteenkiste, 2010). It should be emphasised that these attitudes are usually not very visible, meaning that they are difficult to identify (Soenens et al., 2012). For example, some internal control strategies used by teachers might be related to somewhat unaffectionate non-verbal language such as apathetic looks, gestures of disappointment or ignoring pupils during exercises (Burgueño et al., 2021; De Meyer et al., 2016). Moreover, the internal controlling style can also be made apparent to the entire group through the verbal expression, for instance, of disappointment with the behaviour of a class (Burgueño et al., 2021; De Meyer et al., 2016). Unlike internal control, external control involves external contingencies (Burgueño et al., 2021; De Meyer et al., 2016). For example, some external control strategies might be the use of punishment, threats of giving students bad marks, doing more boring activities or simply yelling at pupils and scolding them for their behaviour (Burgueño et al., 2021; De Meyer et al., 2016). Contrary to the motivational teaching style of support to BPN, the controlling style has been positively associated with frustration of BPN and, in turn, with various negative consequences and experiences in PE classes (boredom, fear of making mistakes, etc.) (Bartholomew et al., 2018; Behzadnia et al., 2018; Burgueño et al., 2021).

Hence the motivational teaching style, consisting of a degree of support to BPN and the use of a controlling style, may shape pupils' experiences in PE classes, experiences which may be essential in their embracing a more active lifestyle (Behzadnia et al., 2018). However, while PE teachers' style of support to BPN has been analysed in depth, by comparison their controlling style has attracted far less attention (Vasconcellos et al., 2019). Moreover, according to the authors there are only two studies about PE

classes that examine the influence of these teachers' internal and external controlling style (Burgueño et al., 2021; De Meyer et al., 2016) on pupil motivation variables. In the two studies both the internal and the external controlling styles were negatively related to the satisfaction of BPN (Burgueño et al., 2021) and autonomous motivation (De Meyer et al., 2016) and positively to the frustration of BPN (Burgueño et al., 2021) and to controlled motivation and lack of motivation (De Meyer et al., 2016). The predictive analyses showed how the internal controlling style was a predictor of less adaptive motivational processes (Burgueño et al., 2021; De Meyer et al., 2016). Similarly, there is a very limited number of studies that have examined pupils' perception of their experiences in PE classes (Gutiérrez, 2014) and none have examined the relationship with the motivational teaching style (Vasconcellos et al., 2019). Therefore, the objectives of the study were: 1) to analyse whether support to the three BPN and the use of a controlling style by PE teachers predict negative or positive experiences among pupils, and 2) to examine the type of experiences perceived by pupils in PE classes depending on the level of support to the three BPN and on the use of a controlling style by PE teachers.

## Methodology

### Design and participants

A descriptive cross-sectional study was performed in which by means of intentional sampling a total of 942 CSE and *Bachillerato* students from five out of eight secondary schools in Huesca participated. The participants were aged between 12 and 17 years ( $MA = 14.37$ ;  $SD = 1.55$ ; 50.3% girls and 49.7% boys) and were distributed as follows in the school academic years: 1st CSE = 195; 2nd CSE = 155; 3rd CSE = 160; 4th CSE = 177; 1st *Bachillerato* = 255. The Research Ethics Committee of the Region of Aragon (CEI-CA) approved the study (PI1570283).

## Variables and instruments

### Support to BPN by PE teachers

The Questionnaire of Basic Psychological Needs Support (QBPN; Sánchez-Oliva et al., 2013) was used to measure pupils' perception of PE teachers' support to the three BPN. This instrument, which begins with the statement "In PE

classes, our teacher...", is comprised of 12 items grouped into three factors (four items per factor) which measure support to autonomy ("he/she often asks us about our preferences regarding the activities to be done"); support to competence ("he/she proposes activities suited to our level so that we will do them well"), and support to relatedness ("he/she fosters a good atmosphere among classmates"). The response format used was a Likert 1-5 scale, where 1 was "totally not agree" and 5 was "totally agree".

### PE teachers' internal and external controlling style

The students' perception of their PE teachers' internal and external control behaviours was evaluated by means of the Spanish version (Burgueño et al., 2021) of the Psychologically Controlling Teaching Scale (De Meyer et al., 2016; Soenens et al., 2012). This instrument, which begins with the statement "My PE teacher...", is comprised of two factors that measure the internal controlling style (four items; "Pays less attention to me when I disappoint him/her") and the external controlling style (four items; "Yells when I am not doing what (s)he wants"). The response format used was a Likert 1-5 scale, where 1 was "totally not agree" and 5 was "totally agree".

### Pupils' experiences in PE classes

In line with previous research (Gutiérrez, 2014), the following question was used to evaluate pupils' experiences in PE classes: What are your experiences in the PE subject like? The possible answers were: (1) "Very bad", (2) "Bad", (3) "Average", (4) "Good" and (5) "Very good".

### Procedure

Before starting the study, the lead researcher contacted the schools' administration and PE teachers to inform them about the objectives and secure their collaboration. The families or legal guardians were subsequently asked to provide the informed consent for their children to participate voluntarily in the research. Several days were needed to administer the questionnaires at the schools in view of the large sample size. The questionnaires were completed on paper in approximately 15 minutes in a classroom with a calm atmosphere and an appropriate temperature. The lead researcher was on hand throughout the administration process to deal with possible queries and insisted upon the anonymity of the answers and that the respondents should

reply as honestly as possible. The PE teachers were not present while the pupils completed the questionnaires so as not to distort their answers.

## Data analysis

First of all, the descriptive statistics (mean and standard deviation) were calculated along with reliability (Cronbach's  $\alpha$ ), and a bivariate correlation analysis of all the variables involved in the study was performed. Secondly, a stepwise linear analysis was conducted to identify whether the degree of support to the three BPN (autonomy, competence and relatedness) and controlling style (internal and external) were predictive of pupil experiences in PE classes. Finally, a bivariate analysis of variance (ANOVA) was carried out by means of Bonferroni's correction to assess the pupils' perception of the degree of support to BPN and the controlling style used by the PE teachers according to pupils' experiences in the PE classes. The level of statistical significance was set at  $p < .05$ . Effect sizes ( $\eta_p^2$ ) of .01 were regarded as low, above .06 as moderate and above .14 as high (Cohen, 1988). All the analyses were performed using SPSS 23.0 software.

## Results

The descriptive statistics ( $M$  and  $SD$ ), Cronbach's  $\alpha$  coefficients and bivariate correlations of all the study variables are shown in Table 1. Generally speaking, the pupils perceived higher mean scores in support to autonomy, support to competence and particularly in support to relatedness than in their PE teachers' internal and external controlling style. Moreover, support to autonomy,

competence and more particularly to relatedness correlated significantly and positively with the pupils' experience in the PE classes, whereas the external controlling style and more particularly the internal controlling style were negatively correlated.

To address the first study objective, the pupils' experiences in PE were input into the linear regression analysis as a dependent variable. The three supports to BPN along with the internal and external controlling styles were entered separately as independent variables. Whereas support to autonomy and competence did not significantly predict pupils' experiences in PE classes, support to relatedness did predict them positively ( $\beta = .24$   $p < .01$ ) with an explained variance of 5%. Conversely, the internal controlling style negatively predicted pupils' experiences in PE classes ( $\beta = -.44$   $p < .01$ ) with an explained variance of 20%. On the other hand, the external controlling style positively predicted the students' experiences ( $\beta = .09$   $p < .01$ ), although the explained variance for this variable was residual ( $R^2 = 0.5\%$ ).

With regard to the second study objective, as shown in Table 2, the ANOVA performed between the different pupil-reported PE experiences ("very bad", "bad", "average", "good" and "very good") and pupil-perceived PE teachers' motivational style (support to autonomy, support to competence, support to relatedness, internal controlling style and external controlling style) were significant ( $p < .001$ ), presenting effect sizes ranging from moderate to high. The students who had "very bad" and "bad" experiences in PE presented significantly lower values in support to the three BPN as well as significantly higher values in internal and external controlling style compared to the other students who had "very good", "good" or "average" experiences.

**Table 1**

*Descriptive analyses and correlations between the study variables.*

Variables	$\alpha$	$M$	$SD$	1	2	3	4	5	6
1. Support to autonomy	.81	3.22	1.12	-	.69**	.67**	-.36**	-.38**	.31**
2. Support to competence	.82	3.60	1.10		-	.72**	-.43**	-.43**	.33**
3. Support to relatedness	.88	3.78	1.14			-	-.47**	-.47**	.40**
4. Internal controlling style	.91	2.00	1.05				-	.88**	-.44**
5. External controlling style	.80	1.95	1.00					-	-.37**
6. Experiences in PE	-	4.18	0.80						-

Note. \* $p < .05$ ; \*\* $p < .01$ .

At the opposite extreme, students who reported “very good” experiences perceived significantly higher values in terms of support to the three BPN and significantly lower values in terms of internal and external controlling style compared to the students who had “good”, “average”, “bad”

and “very bad” experiences. Moreover, the students who reported “good” experiences were significantly different from the students with “average” experiences, presenting higher values of support to the three BPN and lower internal and external controlling style values.

**Table 2**

*Pupil-perceived experiences in PE classes depending on support to BPN and the use of a controlling style by the PE teachers.*

Variables	Pupils' experiences in PE classes					F	$p$	$\eta_p^2$
	Very bad	Bad	Average	Good	Very good			
	<i>M (SE)</i>	<i>M (SE)</i>	<i>M (SE)</i>	<i>M (SE)</i>	<i>M (SE)</i>			
Support to autonomy	1.25 <sup>a</sup> (.37)	1.58 <sup>a</sup> (.24)	2.74 <sup>b</sup> (.09)	3.25 <sup>c</sup> (.05)	3.47 <sup>d</sup> (.05)	29.51	<.001	.112
Support to competence	1.84 <sup>a</sup> (.36)	1.80 <sup>a</sup> (.24)	3.14 <sup>b</sup> (.09)	3.58 <sup>c</sup> (.04)	3.89 <sup>d</sup> (.05)	33.41	<.001	.125
Support to relatedness	1.31 <sup>a</sup> (.36)	1.68 <sup>a</sup> (.24)	3.18 <sup>b</sup> (.09)	3.79 <sup>c</sup> (.05)	4.15 <sup>d</sup> (.05)	51.03	<.001	.179
Internal controlling style	4.68 <sup>a</sup> (.38)	3.76 <sup>a</sup> (.25)	2.69 <sup>b</sup> (.09)	1.99 <sup>c</sup> (.05)	1.62 <sup>d</sup> (.05)	64.01	<.001	.215
External controlling style	4.22 <sup>a</sup> (.33)	3.30 <sup>a</sup> (.22)	2.27 <sup>b</sup> (.08)	1.88 <sup>c</sup> (.04)	1.71 <sup>d</sup> (.05)	23.11	<.001	.090

Note. SE = Standard error. The superscript letters (a, b, c, and d) represent significant differences in motivational teaching style between the different types of experiences in PE.

## Discussion

Since most adolescents do not fulfil PA recommendations (Guthold et al., 2020), the motivational style adopted by PE teachers is a key factor in getting pupils to embrace a more active lifestyle. Although the relationship between support to BPN by PE teachers and certain affective, cognitive and behavioural consequences is well-known (Vasconcellos et al., 2019), no previous studies have examined the effect of the motivational style of support to BPN and internal and external control on pupils' experiences in PE classes. For this reason, and taking SDT as reference, this study adds to knowledge of this relationship.

More specifically, the primary objective of this study was to examine whether experiences in PE would be predicted by PE teachers' support to the three BPN and/or internal and external controlling style. In line with SDT (Ryan & Deci, 2017), support to relatedness positively predicted positive pupil experiences in PE classes. In the same line, a previous systematic review showed that relatedness is considered to be one of the most influential factors in pupils' positive experiences in these classes (Beni et al., 2017; White et al., 2020). These results may be accounted for by the growing

influence of relationships between peers in childhood and adolescence (Sanz-Martín, 2020). In turn, these findings underscore the importance of designing welcoming and reassuring learning environments that are conducive to positive interaction in PE classes (Sparks et al., 2017). To this end, teachers should cater to students' relatedness by using various strategies (promoting flexible and heterogeneous groups, mediating in possible conflicts or allowing the formation of different groups during the class) in order to achieve more positive experiences in PE classes (Beni et al., 2017).

However, and while this study did find positive correlations between support to autonomy and support to competence and pupils' experiences in PE classes, these two factors were not significant predictors of experiences in PE. Nevertheless, the wealth of evidence based on SDT, which shows that support to autonomy and to competence are positively related to the satisfaction of BPN and consequently to autonomous motivation and various positive consequences in PE (Pérez-González et al., 2019; Vasconcellos et al., 2019), points to the importance of implementing motivational styles based on support to all three BPN.

With regard to PE teachers' controlling style and in line with SDT (Soenens et al., 2012), the internal controlling style negatively predicted pupils' experiences in PE classes. As in previous studies, these findings suggest that certain behaviours of PE teachers, such as an aloof attitude to pupils, looks of disappointment when pupils do something wrong or simply ignoring a group of students in the course of a certain task, may not only lead to reduced motivation (Burgueño et al., 2021; De Meyer et al., 2016) but also to negative pupil experiences in PE classes. Contrary to the tenets of SDT, the external controlling style positively predicted pupils' experiences in PE classes. Nevertheless, the explained variance was below 1%, meaning that this result may be interpreted as residual.

Nevertheless, it should be emphasised that in line with SDT (Soenens et al., 2012) and previous studies (Behzadnia et al., 2018; Burgueño et al., 2021; De Meyer et al., 2016), the correlation analysis did show a negative relationship between the external controlling style and pupils' experiences in PE classes. Therefore, the results of this study suggest that PE teachers should favour positive communicative exchanges in their classes. Similarly, an internal controlling style should be particularly avoided in view of the negative implications it has with regard to pupils' experiences in PE classes (Burgueño et al., 2021; De Meyer et al., 2016). Nonetheless, future studies should dedicate further attention to the role of the internal and external controlling styles in certain motivational variables and the consequences in PE classes.

The second objective set out to analyse the type of experiences perceived by pupils in PE classes depending on the level of support to the three BPN and the controlling style of PE teachers. In line with SDT (Ryan & Deci, 2017) and previous PE studies (De Meyer et al., 2016; Haerens et al., 2018), students who reported "very bad" or "bad" experiences perceived a less optimal motivational style (low values in terms of support to BPN and high values in internal and external controlling style). These results show that teachers who do not involve their students in decision-making (support to autonomy), who fail to tailor exercises to their pupils' motor level, do not provide them with positive feedback (support to competence) or do not create an atmosphere that is conducive to pupil cooperation and integration in PE classes (support to relatedness) may induce negative consequences and experiences in their PE classes (Vasconcellos et al., 2019). Similarly, PE teachers who evince an apathetic or aloof attitude towards certain pupils, paying less attention to them or even ignoring them (internal control), as well as those who use threats, punishment or who yell (external control), may generate

highly negative experiences in adolescents in PE classes (De Meyer et al., 2016).

By contrast, and consistent with SDT and previous studies (Haerens et al., 2018), students who reported "very good" experiences perceived a more optimal motivational style (high values in terms of support to BPN and low internal and external controlling style values). In this regard, the results seem to suggest that as teachers implement more strategies involving support to BPN and embrace a less controlling style, both internally and externally, their pupils experience more positive and adaptive consequences and experiences in their PE classes (Vasconcellos et al., 2019). These results may be of paramount importance since having positive experiences in PE is fundamental if young people are to continue to do PA outside the classroom (Beni et al., 2017).

## Conclusions

This study demonstrates the relevance of the motivational style of support to BPN (autonomy, competence and relatedness) by PE teachers for pupils to enjoy more positive experiences in class. More particularly, it stresses that it is important that PE teachers support student relatedness in order to foster more positive experiences in PE classes. Similarly, it would seem to be important for teachers not to use a controlling style in their PE classes and more particularly to avoid the internal controlling style in view of the more negative implications that this may entail in terms of pupil experiences. The findings point to the importance of including strategies to encourage support to BPN and to avoid the use of a controlling style in the initial and continuous training of PE teachers. Similarly, it would appear to be equally important for school administrators to offer training based on SDT and more specifically on the implementation of motivational strategies that can be used by teachers in the classroom. The application of these motivational strategies by teachers could contribute to pupils embracing a healthier and more active lifestyle outside PE classes.

Finally, and while the findings add to existing evidence and underline the significance of PE teachers' motivational style, it is also important to note the limitations of this paper and some possibilities moving forward should be mentioned as well.

First of all, it is a cross-sectional study, meaning that no causality can be inferred from the relationships found. Future studies should be based on a longitudinal design that will afford greater rigour to the relationship between the motivational teaching style and pupils' experiences in

PE classes. Secondly, pupils' experiences in PE classes were evaluated by means of a single item which might limit the results' external validity. Future research should evaluate this variable using other scales in order to address the concept of experiences in PE more comprehensively. Thirdly, in this study motivational style was evaluated from the pupils' standpoint. It would be interesting for future research to also consider the relationship between the motivational teaching style and pupils' experiences of PE through PE teachers' own perception of their motivational teaching style (Abós et al., 2018). Finally, this study only evaluated pupil experiences in PE classes. Evaluate how the different motivational styles of PE teachers are related to the satisfaction and frustration of NPB, with the novelty or with the variety, could be useful to expand the evidence of TAD in the context of the EF. (Vasconcellos et al., 2019).

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