

The role of prosocial climate and gender in the relationships between social goals and enjoyment in physical education students

El papel del clima prosocial y el género en las relaciones entre las metas sociales y el disfrute en estudiantes de Educación Física

O papel do clima pró-social e do gênero nas relações entre os objetivos sociais e o prazer em estudantes de Educação Física

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Abstract

The aim of this study was to examine the mediating role of prosocial climate in the relationship between social goals and enjoyment in Physical Education, also considering gender as a moderating variable. A total of 392 secondary school students participated, aged between 14 and 16 years ($M = 15.07$; $SD = 0.78$). An associative and explanatory design was employed, using a mediation model with gender as a moderator to analyse the relationships between variables. Data were collected using the Social Goals Scale – Physical Education, the Prosocial School Climate Questionnaire, and the Intrinsic Satisfaction in Sport Instrument. Mediation analyses revealed a significant mediating effect of prosocial climate on the relationships between the social goals of responsibility and relationship with enjoyment in Physical Education. No significant moderating effect of gender was found in the proposed mediation model. These findings suggest that the relationship between social goals and enjoyment in Physical Education is partly explained by the prosocial climate within the classroom, thereby underscoring the importance of positive social interactions among students in fostering enjoyable learning experiences in Physical Education.

Keywords: Adolescents; school climate; motivation; mediation analysis; gender.

Resumen

El objetivo de este estudio fue analizar el rol mediador del clima prosocial en la relación entre las metas sociales y el disfrute en Educación Física, considerando además el género como variable moderadora. Participaron 392 estudiantes de Educación Secundaria Obligatoria, con edades entre 14 y 16 años ($M = 15,07$; $DT = 0,78$). Se utilizó un diseño asociativo y explicativo, utilizando un modelo de mediación, con el género como moderador, para analizar las relaciones entre variables. Los datos se recogieron mediante la Social Goals Scale – Physical Education, el Cuestionario de Clima Prosocial Escolar y el Instrumento de Satisfacción Intrínseca en el Deporte. Los análisis de mediación mostraron un efecto mediador significativo del clima prosocial en la relación entre las metas de responsabilidad y relación con el disfrute en Educación Física. No se halló un efecto moderador del género en el modelo propuesto. Estos resultados sugieren que la relación entre las metas sociales y el disfrute en Educación Física se explica en parte por el clima prosocial en el aula, lo que resalta la importancia de interacciones sociales positivas para favorecer experiencias de aprendizaje placenteras en esta materia.

Palabras clave: Adolescentes; clima escolar; motivación; análisis de mediación; género.

Introduction

The experience of enjoyment among Physical Education (PE) students is essential in regulating their motivation and adherence to physical activity (Towlson et al., 2025). On the one hand, greater enjoyment during classes is likely to enhance learning processes and increase effort invested in the subject itself (Rodríguez Macías et al., 2021), whereas lower enjoyment tends to reduce interest and commitment towards PE (Hernández-Martos et al., 2024). On the other hand, previous studies have highlighted that adolescents' experiences in PE classes may contribute to the development of active lifestyle habits. Thus, various investigations have indicated that when students perceive PE lessons positively, the likelihood of being active outside of school increases (Biddle et al., 2019; Timo et al., 2016). Therefore, it is relevant to examine the factors that influence students' enjoyment during school-based PE (Sánchez-García et al., 2024).

To explain and understand students' experiences during PE, one of the most widely employed theoretical frameworks has been Achievement Goal Theory (AGT) (Nicholls, 1984). This theory posits that individuals form goals in each context, which determines the effort they invest in demonstrating competence (Franco et al., 2024). Fundamentally, AGT distinguishes between task-oriented and ego-oriented goals, which influence how success and failure are perceived, as well as the degree of enjoyment during PE participation (Reigal et al., 2024). Task-oriented motivation has been associated with greater enjoyment in PE, whereas ego-oriented motivation tends to be linked to higher levels of boredom (Jackman et al., 2021; Min & Kawabata, 2022; Milton et al., 2025).

However, in achievement-related contexts, this perspective is limited as it neglects other variables that may influence students' motivation and experience (Allen, 2003; Cecchini Estrada et al., 2011). Therefore, it is necessary to incorporate complementary theoretical approaches. Specifically, several authors have pointed out that in the context of PE, social goals are particularly important as motivational drivers of student behaviour (Cecchini Estrada et al., 2011). For instance, Guan et al. (2006a, 2006b) identified two key types of social goals: responsibility goals, linked to adhering to rules and fulfilling social expectations, and relationship goals, concerned with maintaining positive peer relationships. Prior research has suggested that social goals are associated with greater satisfaction in peer relationships, more positive learning dispositions, and improved perceptions of personal competence in PE (Moreno Murcia et al., 2007, 2009).

Although social goal models have received less attention than other paradigms, they are relevant for understanding student motivation and learning environments (King & Mendoza, 2021). Various studies suggest that high levels of social goal setting among students play a crucial role in the development of prosocial behaviours, such as respect, social support, empathy, and collaboration—factors that positively influence students' learning experiences, enjoyment, and commitment to PE (García González et al., 2023; Cheon et al., 2023). Although empirical evidence directly linking social goals and classroom prosocial climate remains scarce, these factors may be related. Thus, if students are inclined to pursue social goals, they are more likely to exhibit prosocial behaviours that may be emulated by peers through a contagion effect (King & Mendoza, 2021), thereby promoting collaborative, supportive, and productive learning environments.

Indeed, when students perceive greater peer support, reduced criticism, and increased collaboration, this contributes to more positive learning tendencies, greater engagement in activities, and enhanced enjoyment, making PE classes less likely to be perceived as hostile or monotonous (Engels & Freund, 2020; Opstoel et al., 2020). This is particularly relevant during adolescence, a stage during which peer interactions are critical in shaping the learning experience and the social climate of the classroom (Beni et al., 2017; Domínguez et al., 2026; Ellinger et al., 2023; Flores-Piñero et al., 2024).

Present study

Although social goals are thought to influence students' learning experiences and enjoyment in PE (Guan et al., 2006a, 2006b), no studies to date have examined the potential mediating effect of the prosocial climate on the relationship between social goals and enjoyment or boredom in PE. Nonetheless, previous research has indicated that social goals may be determinants of the social environment among students, being associated with improved interpersonal relationships in PE contexts (Moreno Murcia et al., 2009). Given that prosocial climate may contribute to students' experiences in PE settings

(Engels & Freund, 2020; Opstoel et al., 2020), it could act as a mediating factor between social goals and enjoyment or boredom in PE classes.

PE classes take place in highly interactive social contexts, which play a decisive role in shaping the classroom environment (Cecchini Estrada et al., 2011). Social goals predispose students to more adaptive behaviours for learning and enjoyment in PE, thereby fostering more appropriate social interactions among adolescents (Wallhead et al., 2013). Fernández-Río et al. (2012) found that social goals were positively associated with increased respect among peers and higher levels of enjoyment in PE. Furthermore, Garn and Wallhead (2015) argued that social motivations are fundamental to students' functioning in PE, noting that the desire for positive social relations is central to students' enjoyment of the subject. Consequently, it seems reasonable to suggest that perceived social climate could mediate the relationships between social goals and enjoyment, or boredom, in PE classes.

Finally, no previous evidence of the influence of gender on the relationships between these variables has been found. Although differences between boys and girls have been observed in some specific variables included in this study, such as social goals (Cecchini Estrada et al., 2011; Guan et al., 2006a, 2006b), no previous research has identified differences in relationship patterns based on gender. Furthermore, previous studies including variables such as social goals or enjoyment in PE, they did not find significant gender-based differences in relationships patterns between the variables (Fernández-Río et al., 2012; Reigal et al., 2024). However, given the importance of gender in adolescence (Beni et al., 2017; Navarro et al., 2021; Sabiston et al., 2022) and the lack of precise data to confirm or deny its effect, we consider it important to include this factor in our explanatory model. Therefore, mediation analyses will be conducted, including gender as a moderator of the relationships proposed in the model, to verify its impact on the results. However, since there is no justification that the structure of relationships proposed in this research could be conditioned by gender, it is expected that no statistically significant effects will be found.

Therefore, the aim of this study was to understand the relationships between social goals, prosocial climate, and enjoyment in PE classes. We hypothesise that: (1) social goals will be positively associated with prosocial climate in PE classes; (2) prosocial climate will be positively related to enjoyment in PE classes; (3) prosocial climate will mediate the associations between social goals with enjoyment in PE classes. Finally, due to the limited evidence regarding the possible moderating role of gender in these relationships, this variable was included as a potential moderator in the proposed model.

Materials and Methods

This study employed a cross-sectional associative design (Ato et al., 2013). Specifically, mediation and moderated mediation analyses were conducted to examine the explanatory relationships among the study variables.

Participants

Three hundred and ninety-two adolescents (52.81% male, $n = 207$; 47.19% female, $n = 185$) participated in this study. They attended schools in the city of Málaga (Spain) and were aged between 14 and 16 years old ($M = 15.07$; $SD = .78$). All participants attended PE classes twice a week and followed a similar school curriculum for this subject. Moreover, the socioeconomic characteristics of their school environments were comparable. Additionally, all participants had the same PE teacher during both the previous and the current academic year. The inclusion criteria were: (a) being enrolled in the 3rd or 4th year of Compulsory Secondary Education; (b) having attended PE classes regularly during the 2023/2024 academic year (>90% of classes); and (c) having been in the same class the previous academic year. Exclusion criteria included: (a) recent injuries preventing participation in PE; (b) recent enrolment in the school; (c) having had a different PE teacher the previous year; and (d) current engagement in competitive sports, to avoid external leadership influences in physical activity settings. Students participating in competitive sports were excluded to reduce potential bias arising from the relationships with other contexts of structured physical activity. Competitive sports environments can expose adolescents to additional social agents, such as coaches, teammates, and parents, as well as to specific motivational climates, team dynamics, and competitive norms that may be associated with their social goals, perceived climate, and enjoyment in physical activity contexts (Gu & Cheng, 2025; Hodge et al., 2023; Kipp & Bolter, 2024).

Instruments

Social Goals Scale-Physical Education (SGS-PE) (Guan et al., 2006a). The Spanish version of this questionnaire was used to measure social goals in PE (Moreno Murcia et al., 2007). This scale assesses social goals within the context of PE. It consists of 11 items and two factors: social responsibility goals (five items) (e.g., "I try to do what the teacher asks me to do") and social relationship goals (six items) (e.g., "I would like to get to know my classmates very well"). Responses are provided on a Likert-type scale ranging from one (totally disagree) to seven (totally agree). The internal consistency analysis (Cronbach's alpha) showed values of .84 for social responsibility goals and .82 for social relationship goals.

School Prosocial Climate Questionnaire (CCPE) (Roche, 2002). This questionnaire assesses students' perceptions of the collective prosocial climate within their class group. Consisting of 10 items and one factor (e.g., "We calm those who are nervous and offer encouragement or comfort to those who are feeling sad"). This is answered on a Likert-type scale from one (almost never) to five (almost always). The internal consistency analysis (Cronbach's alpha) showed values of .91.

Intrinsic Satisfaction in Sport Instrument (SSI-EF) (Duda & Nicholls, 1992). The Spanish version of the Sport Satisfaction Instrument adapted to PE from the original Sport Satisfaction Instrument was used to measure the level of enjoyment in PE (Baena Extremera et al., 2012; Balaguer et al., 1997). It measures intrinsic satisfaction in an activity through eight items by means of two factors: Enjoyment, consists of five items (e.g., "I usually have enjoyment in the PE classes"), and boredom consists of three items (e.g., "In PE, I usually wish the class would end quickly"). This is answered on a Likert-type scale from one (do not agree at all) to four (strongly agree). For this research only the enjoyment factor, which had an internal consistency value (Cronbach's alpha) of .89, was used.

Procedure

The sample was obtained from various high schools in the city of Málaga (Spain). Participants were selected using non-probability (convenience) sampling. First, after explaining the purpose of the research, authorization to conduct the study was requested from the school's administration. Second, the families of the participants were contacted by letter to request their children's participation. Third, informed consent was obtained from the adolescents to participate in the research. Participants were informed about the characteristics of the study, guaranteed the confidentiality of their information, and informed of their right to withdraw consent at any time. Throughout the research process, the ethical principles of the Declaration of Helsinki (World Medical Association, 2013) were respected. Approval was also obtained from the Ethics Committee of Málaga University (CEUMA: 71-2023-H) to conduct the research. Data were collected during school hours in April and May 2024, specifically during PE classes. Students spent 60 minutes completing the questionnaires. A researcher was always present to answer any questions. To reduce potential bias or interference from other subjects, the questionnaires were administered during PE classes, thus ensuring that teachers from other subjects were not influenced. Furthermore, students were explicitly told that their answers should refer exclusively to their experiences in PE classes.

Data analysis

Means, standard deviations and bivariate correlations were analysed for all study variables. Prior to the main analyses, the normality of the variables was examined using skewness, kurtosis, and the Kolmogorov-Smirnov test. Skewness and kurtosis values were interpreted according to the criteria proposed by Hair et al. (2018). As the normality tests did not support the assumption of normality for most variables, Spearman's correlation coefficient was used to examine bivariate associations. Correlation magnitudes were interpreted according to Evans' (1996) criteria: ± 0.01 to ± 0.19 = very weak correlation; ± 0.20 to ± 0.39 = weak correlation; ± 0.40 to ± 0.59 = moderate correlation; ± 0.60 to ± 0.79 = high correlation. For this purpose, IBM SPSS STATISTICS v.25.0 (IBM Corp., Armonk, NY, USA) software was used. Subsequently, to test

the hypothesized models, the Jamovi medmod module (version 2.3.28.0) (The Jamovi Project, 2022) was used, using the General Linear Model (GLM) procedure. In a first step, two predictor variables (X_1 and X_2) were included to examine their direct and indirect effects on the dependent variable (Y) through a single mediator (M). In a second step, gender was included as a possible moderating variable of these relationships. Also, to explore these effects, model 59 of SPSS PROCESS v.4.1 was used. These models allow to control the indirect effects of mediators and moderators on the relationships between variables, providing regression coefficients that offer explanatory value for these relationships (Hayes, 2018). To conduct these analyses, a bootstrap of 10,000 samples with a 95% confidence level was employed (Hayes, 2018; Williams and Mackinnon, 2008).

Results

Descriptive Analysis

Descriptive statistics are shown in table 1. Skewness and kurtosis showed normal distribution, since their values were between -2 to +2 and -7 to +7 Respectively (Hair et al., 2018). However, the Kolmogorov-Smirnov analysis did not confirm the assumption of normality in most cases. Therefore, Spearman's coefficient was used to analyze correlations between variables. Correlation analyses also indicated positive and statistically significant relationships between them. Furthermore, according to Evans's (1996) criteria, these correlations were moderate to high.

Table 1. Descriptive statistics and correlations for total, male and female samples.

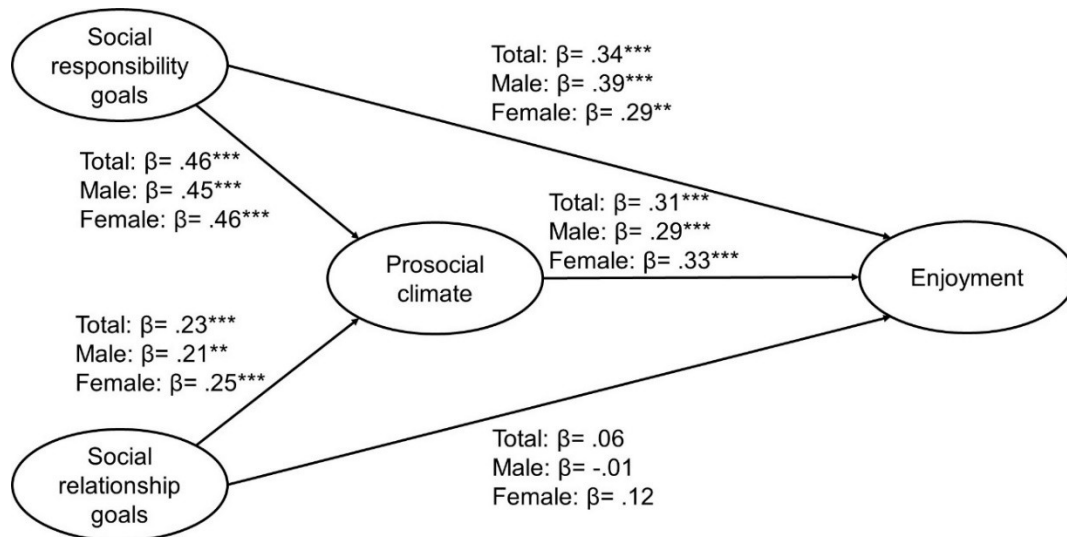
Sample	Variables	<i>M</i>	<i>SD</i>	<i>S</i>	<i>K</i>	<i>K-S</i>	1	2	3
Total	1. Social responsibility goals	5.81	.96	-1.28	1.94	.14***	-		
	2. Social relationship goals	5.62	.96	-1.12	1.65	.14***	.68**	-	
	3. Prosocial climate	3.49	.78	-.26	.07	.06**	.61**	.54**	-
	4. Enjoyment	3.45	.68	-1.53	1.86	.21***	.58**	.46**	.55**
Male	1. Social responsibility goals	5.81	.92	-1.21	1.98	.14***	-		
	2. Social relationship goals	5.67	.93	-1.11	1.58	.15***	.65**	-	
	3. Prosocial climate	3.55	.77	-.24	.01	.05	.56**	.48**	-
	4. Enjoyment	3.49	.64	-1.58	2.07	.21***	.56**	.39**	.52**
Female	1. Social responsibility goals	5.81	1.01	-1.34	1.91	.16***	-		
	2. Social relationship goals	5.57	.99	-1.13	1.72	.14***	.70**	-	
	3. Prosocial climate	3.44	.79	-.27	.15	.08*	.66**	.59**	-
	4. Enjoyment	3.39	.72	-1.45	1.59	.20***	.59**	.52**	.59**

Notes: M = Mean; SD = Standard Deviation; S = Skewness; K = Kurtosis; Kolmogorov-Smirnov.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Mediation Analysis

A mediation analysis was conducted using a General Linear Model (GLM) in Jamovi (version 2.3.28.0) (The Jamovi Project, 2022). In this model, the prosocial climate mediated the relationships between social goals of responsibility and relationship with enjoyment. The results revealed a direct, positive, and statistically significant association between all variables, except for the relationship between relationship social goals and enjoyment (Figure 1; Table 2). Furthermore, a partial mediating effect of the prosocial climate was observed in the relationship between responsibility social goals and enjoyment, since the direct association is stronger than the indirect association. Additionally, a full mediating effect of the prosocial climate was found in the relationship between relationship social goals and enjoyment (Table 2), since the indirect association is stronger than the direct association.

**Figure 1:** Mediation model.

Notes. β = standardized regression coefficient. $^{**}p < .01$; $^{***}p < .001$.

Table 2. Direct and indirect associations among variables for total, male and female samples.

Sample	Associations	Path	<i>B</i>	<i>SE</i>	<i>LB</i>	<i>UB</i>	β	<i>z</i>	<i>p</i>
Total	Direct	Res $\Rightarrow$ Pro	.37	.04	.29	.47	.46	8.23	< .001
		Rel $\Rightarrow$ Pro	.18	.04	.10	.26	.23	4.29	< .001
		Pro $\Rightarrow$ Enj	.27	.05	.17	.37	.31	5.30	< .001
		Res $\Rightarrow$ Enj	.24	.05	.15	.34	.34	4.73	< .001
		Rel $\Rightarrow$ Enj	.04	.04	-.04	.12	.06	1.03	0.303
	Indirect	Res $\Rightarrow$ Pro $\Rightarrow$ Enj	.10	.02	.05	.15	.14	4.40	< .001
		Rel $\Rightarrow$ Pro $\Rightarrow$ Enj	.05	.02	.02	.08	.07	3.29	< .001
Male	Direct	Res $\Rightarrow$ Pro	.36	.07	.23	.49	.45	5.53	< .001
		Rel $\Rightarrow$ Pro	.17	.06	.05	.28	.21	2.73	0.006
		Pro $\Rightarrow$ Enj	.25	.06	.12	.38	.29	3.80	< .001
		Res $\Rightarrow$ Enj	.27	.06	.16	.39	.39	4.69	< .001
		Rel $\Rightarrow$ Enj	-.01	.06	-.12	.10	-.01	-.07	0.946
	Indirect	Res $\Rightarrow$ Pro $\Rightarrow$ Enj	.09	.03	.04	.16	.13	3.05	0.002
		Rel $\Rightarrow$ Pro $\Rightarrow$ Enj	.04	.02	.01	.09	.06	2.21	0.027
Female	Direct	Res $\Rightarrow$ Pro	.38	.06	.26	.49	.46	6.50	< .001
		Rel $\Rightarrow$ Pro	.20	.06	.07	.32	.25	3.42	< .001
		Pro $\Rightarrow$ Enj	.29	.08	.13	.43	.33	3.64	< .001
		Res $\Rightarrow$ Enj	.21	.08	.06	.35	.29	2.79	0.005
		Rel $\Rightarrow$ Enj	.09	.06	-.03	.21	.12	1.44	0.149
	Indirect	Res $\Rightarrow$ Pro $\Rightarrow$ Enj	.11	.04	.05	.19	.15	3.02	0.003
		Rel $\Rightarrow$ Pro $\Rightarrow$ Enj	.06	.02	.02	.12	.08	2.49	0.013

Notes. B= Regression coefficient; SE = Standardized Error; LB= Lower Bound; UB= Upper Bound; β = standardized regression coefficient; Symmetric; Res= Social responsibility goals; Rel= Social Relationship goal; Pro= Prosocial climate; Enj= Enjoyment.

Moderated Mediation Analysis

Furthermore, gender was included as a potential moderating variable in the tested models. As shown in Table 3, the direct associations were not moderated by gender in any case. Similarly, for the relationship between social responsibility goals and enjoyment through the prosocial climate, the index of the conditional indirect effect was 0.04 (SE = .05, 95% CI [-.06, .15]). In turn, for the relationship between social relationship goals and enjoyment via the prosocial climate, the index of the conditional indirect effect was 0.04 (SE = .05, 95% CI [-.06, .14]). These results indicate that the moderating effect of gender was not statistically significant in either case.

Table 3. Conditional effect of gender on the relationships between variables.

Interaction	<i>B</i>	<i>SE</i>	<i>LB</i>	<i>UB</i>	<i>B</i>	<i>z</i>	<i>p</i>
Res X Gender $\Rightarrow$ Pro	.01	.09	-.16	.16	.01	.14	.883
Rel X Gender $\Rightarrow$ Pro	.03	.09	-.14	.19	.02	.40	.688
Res X Gender $\Rightarrow$ Enj	-.06	.10	-.26	.11	-.04	-.63	.529
Rel X Gender $\Rightarrow$ Enj	.09	.08	-.05	.24	.06	1.15	.250
Pro X Gender $\Rightarrow$ Enj	.04	.10	-.15	.23	.11	.39	.690

Note. Res= Social responsibility goals; Rel= Social Relationship goal; Pro= Prosocial climate; Enj= Enjoyment.

Discussion

The aim of this study was to understand the relationships between social goals, prosocial climate, and enjoyment in PE classes. We hypothesise that: (1) social goals will be positively associated with prosocial climate in PE classes; (2) prosocial climate will be positively related to enjoyment in PE classes; (3) prosocial climate will mediate the associations between social goals with enjoyment in PE classes. In addition, gender was included as a potential moderator in the proposed model. The results supported the study hypotheses, although some findings must be carefully explained.

Regarding the first two hypotheses, positive and statistically significant relationships between the variables were confirmed, which is consistent with previous studies. Thus, as several authors have indicated, social goals have been positively linked to a better learning experience and greater enjoyment during classes, as well as to improved interpersonal relationships among students (Cecchini Estrada et al., 2011; Guan et al., 2006a, 2006b). These studies suggest that social goals motivate students to participate in learning, create a better work environment, and enjoy the activities that take place in that context, which has been reflected in this study (Agbuga et al., 2015). However, some issues need to be clarified. Although the correlation analyses show these relationships in all cases, the mediation model shows that there are no direct relationships between social relationship goals, but rather through the prosocial climate. Therefore, the two social goals showed different patterns, with prosocial climate partially explaining these relationships.

This mediating effect of the prosocial climate would be justified by the importance of the social environment in students' experience (Beni et al., 2017; Ellinger et al., 2023; Flores-Piñero et al., 2024). Thus, in those class groups in which there is a greater tendency to achieve social responsibility and relationship goals, there will be a greater perception of such prosocial behaviors, such as respect, social support, empathy, or collaboration. These behaviours may be associated with a more favourable environment for enjoying learning and the tasks completed in PE classes (García González et al., 2023; Cheon et al., 2023). Furthermore, King and Mendoza (2021) consider that in this type of environment, a contagion effect can occur. Therefore, in groups where students pursue social goals, supportive behaviours may spread and foster a more positive classroom environment. Furthermore, other research has shown that students with higher social goals may be more likely to perceive the environment as more conducive to their goals, tending to focus their attention on environmental elements that can contribute to achieving those goals (Guan et al., 2006a, 2006b). Therefore, there would be a tendency

for these students to perceive the environment as more favourable to their goals, discarding or not focusing on factors that may distract them from their objectives.

Therefore, the confirmation of the third hypothesis represents an important contribution to previous research, which had not proposed the mediating role of prosocial climate in the relationship between social goals and enjoyment in physical education. This, while not empirically proven, is consistent with established theoretical postulates that have highlighted the importance of the perception of prosocial climate in these contexts (Cheon et al., 2023; Moreno Murcia et al., 2007, 2009). Although not empirically demonstrated, it had been theoretically proposed that physical education students who desire and seek to establish better relationships with their peers and tend to respect classroom rules contribute to a better learning environment (Guan et al., 2006a, 2006b) by developing behaviours that facilitate the development of academic and social skills, as well as supportive behaviours from other students.

In PE, this aspect is crucial, given that students must demonstrate a range of motor skills in front of their peers (Peers et al., 2020). This can generate a high level of stress, particularly during adolescence, because it is a period in which evaluations of physical and motor skills are highly rejected, especially when skills are not high or the environment is very hostile (Viholainen et al., 2014). Therefore, if students perceive a climate of respect, support, and collaboration from their peers, they will more likely enjoy the learning activities they engage in (García-González et al., 2023). Therefore, social goals may be associated with enjoyment in classes due to students' willingness to respect the activities proposed by the teacher and their classmates, but also indirectly due to the prosocial climate created (Engels and Freund, 2020; Opstoel et al., 2020), which is highlighted in the results of this research. That is, the pursuit of social goals may be linked to a better classroom atmosphere in PE classes, and this reinforces students' enjoyment (Fernández Río et al., 2012; Garn and Wallhead, 2015; Wallhead et al., 2013).

A crucial aspect of this research is the different behaviour of social responsibility goals and social relationship goals. On the one hand, responsibility goals focus on compliance with rules and tasks (Guan et al., 2006a, 2006b), which require commitment to the activities performed. This could have a direct impact on perceived enjoyment, given that the task itself would be valued and intrinsically attributed to it (Wallhead et al., 2013). Furthermore, it would not depend so much on the classroom environment, but rather on each student's own behaviour. However, relationship goals focus on the desire to have optimal interpersonal relationships among classmates (Cecchini Estrada et al., 2011; Guan et al., 2006a, 2006b), which would not be directly related to enjoyment of PE. Given the desire to establish good relationships, the perception of a better classroom climate, in which helpful and supportive behaviours are promoted, would facilitate the satisfaction of these goals. That is, it would depend to some extent on the relationships established within the class.

Regarding gender, it is confirmed that gender did not moderate the relationships in the model. This indicates that the proposed relationships and the constructed mediation model do not show significant differences between male and female students. Although gender-specific differences in the scores for each variable were not analysed (Cecchini Estrada et al., 2011; Guan et al., 2006a, 2006b), since this was not the subject of study in this research, the results indicate that even if these differences existed, the structure of the relationships would not be altered. It is difficult to compare these results with previous studies, given the lack of similar proposals in the context of PE. However, other studies that have analyzed variables related to achievement goals, motivation, enjoyment, or intention to practice (e.g., Fernández-Río et al., 2012; Reigal et al., 2024) have also not observed that gender is a factor that influences the relationships between variables in PE students. However, these conclusions are weak, and other similar studies should be conducted to verify this phenomenon.

This research has some limitations. First, an explanatory design was used, which is useful for analysing associations between variables, but prevents causal conclusions from being drawn. Therefore, it is suggested that these results be complemented with research using longitudinal or quasi-experimental designs to reach stronger conclusions. Second, the use of a non-probability sample limits the representativeness of the findings. Thus, these results should be understood as specific to a sample with particular characteristics, making it appropriate for future studies to examine other samples to

determine whether they can be generalized. Third, the absence of control variables should be acknowledged as a limitation, as factors such as experiences in other physical activity contexts, achievement goal variables, perceived competence, or levels of intrinsic motivation, among others, could influence the results. It is proposed that future models that include these variables be used to observe whether they influence the results. Finally, further research analysing the influence of gender on these relationships is needed, given that scientific evidence is scarce in these contexts and in relation to the variables proposed in this study.

Conclusions

The mediation results indicated a significant mediating effect in the relationships between social goals of responsibility and relationship and enjoyment in PE. Likewise, no moderating effect of gender was observed in the relationships proposed in the mediation model. The results suggest that part of the relationship between social goals and enjoyment in PE is explained by the prosocial climate in the classroom, highlighting the importance of social interactions among students for optimal experiences in PE.

Practical applications

The findings of this study have relevant practical implications for teachers and professionals in the field of Physical Education. The tested model showed that students' social goals were positively related to the perception of a prosocial classroom climate, which in turn was associated with greater enjoyment in PE classes. Therefore, teachers should deliberately foster a prosocial climate by designing activities that encourage cooperation, mutual support, and shared responsibility among students. Likewise, emphasizing responsibility and relationship goals can enhance students' engagement and create more favourable learning environments. These strategies may not only contribute to greater enjoyment but also reduce the stress associated with motor skill performance during adolescence, a critical stage of personal and social development. Finally, teacher training programs should incorporate contents related to the creation of prosocial climates, as these can be key to improving students' experiences and promoting long-term adherence to physical activity.

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