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How can Physical Education teachers' high directiveness impact students' experiences of enjoyment and boredom?

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Keywords

Self-Determination theory
Circumplex model
Structuring approaches
Controlling approaches
Outcomes

Abstract

Based on Self-Determination Theory, a recent theory in the educational context introduces an integrative and detailed circumplex model that categorizes teaching styles into eight (de)motivating approaches, depending on their level of directiveness and support or threat to students' needs. However, the evidence so far on how high directiveness approaches (i.e., guiding, clarifying, demanding, domineering) is limited regarding its potential connection to various (mal)adaptive outcomes in Physical Education, given that Physical Education teachers can adopt different high directiveness approaches for optimal classroom management. The present study aims to examine the differential impact of high directiveness leadership: structuring style (i.e., guiding and clarifying) versus controlling style (i.e., demanding and domineering), on students' affective outcomes (i.e., enjoyment and boredom). A convenience sample of 697 students (51% girls; M_{age} = 14.52; SD = 1.45), aged between 12 and 17 years, participated in this cross-sectional study. The results show that enjoyment during Physical Education lessons was positively and significantly predicted by the guiding and clarifying approaches. In contrast, boredom was negatively and significantly predicted by the guiding approach, while the domineering approach positively and significantly predicted boredom. The results emphasized the importance of Physical Education teachers adopting structuring approaches (i.e., guiding and clarifying) and avoiding controlling approaches (i.e., demanding and domineering) to promote adaptive affective outcomes in students.

¿Cómo puede influir la alta directividad del profesorado de Educación Física en las experiencias de diversión y aburrimiento del alumnado?

Palabras clave

Teoría de la Autodeterminación
Modelo circular
Conductas estructuradas
Conductas controladoras
Consecuencias

Resumen

Basada en la Teoría de la Autodeterminación, una teoría reciente en el contexto educativo introduce un modelo circular integrador y detallado que clasifica el estilo motivacional docente en ocho conductas distintas, según su nivel de directividad y el apoyo o amenaza a las necesidades psicológicas básicas del alumnado. Sin embargo, la evidencia hasta ahora sobre cómo los enfoques de alta directividad (i.e., conductas orientadoras, clarificadoras, demandantes y dominadoras) están relacionados con diversas consecuencias en Educación Física es limitada. Dado que el profesorado de Educación Física puede adoptar diversas conductas de alta directividad para gestionar la clase, el presente estudio examina el impacto diferencial de dos tipos de liderazgo de alta directividad: el estilo estructurado (i.e., orientadoras y clarificadoras) versus el estilo controlador (i.e., demandante y dominador), en las consecuencias afectivas del alumnado (i.e., diversión y aburrimiento). En este estudio transversal participó una muestra de conveniencia de 697 estudiantes (51% chicas; M_{edad} = 14.52; DT = 1.45), con edades comprendidas entre los 12 y los 17 años. Los resultados muestran que las conductas orientadoras y clarificadoras predijeron positiva y significativamente la diversión durante las clases de Educación Física. Por el contrario, el aburrimiento fue predicho negativa y significativamente por las conductas orientadoras, mientras que las conductas dominadoras lo predijeron positiva y significativamente. Los resultados del estudio enfatizan que el profesorado de Educación Física debe desarrollar conductas estructuradas (i.e., orientadoras y clarificadoras) y evitar las conductas controladoras (i.e., demandantes y dominadoras) para promover consecuencias positivas en el alumnado.

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How Physical Education (PE) teachers manage and teach can influence their students' experiences in the subject (Vasconcellos et al., 2020). Positive experiences, such as enjoyment in PE lessons can enhance motivation to engage in leisure-time physical activity (PA) (Biddle et al., 2019; Ramires et al., 2023). Moreover, enjoyment is crucial for fostering long-term engagement and meaningful learning in PE due to the positive atmosphere created within the classroom (Vasconcellos et al., 2020). On the other hand, negative experiences, such as boredom, may trigger a lack of motivation, low PA levels, or disengagement (White et al., 2021).

Derived from Self-Determination Theory (SDT; Ryand & Deci, 2017), the circumplex model suggests that PE teachers can manage students in different ways, either taking the lead (i.e., structuring and controlling approaches) or giving students the initiative (i.e., autonomy-supportive and chaotic approaches). Although in recent years, research has focused on analysing the effects of autonomy-supporting versus controlling styles on students of PE, only one study, and not from the circumplex model perspective, has analyzed the effects of structuring with controlling styles on the motivational outcomes of students in PE (García González et al., 2023). Thus, the present study focuses on high directiveness, highlighting those that provide structure (i.e., guiding and clarifying) and those that exert control (i.e., demanding and domineering) (Aelterman et al., 2019; Burgueño et al., 2024). Focusing on the research of García-González et al. (2023), a sample of 1,107 secondary students in Spain reported their PE teachers should create a highly structured learning environment and refrain from using demanding and, particularly, domineering practices to enhance motivational students' outcomes. For all of the above explained reasons, and given the importance of teachers' management and teaching, it is crucial to explore the potential outcomes for students resulting from different high directiveness approaches used by PE teacher. This study aims to examine the differential impact of two high directiveness styles, structuring (i.e., guiding and clarifying) versus controlling (i.e., demanding and domineering), on some students' affective outcomes (i.e., enjoyment and boredom).

High directiveness teaching styles based on the circumplex approach

The circumplex model articulates PE teachers' styles of autonomy-support, structure, control, and chaos in terms of directiveness (i.e., the degree to which the teacher takes the lead in learning interactions or allows students to take the initiative) and need-supportiveness (i.e., the degree to which the teacher supports or thwarts students' needs), providing a more integrative and fine-grained vision (Aelterman et al., 2019; Escriva-Boulley et al., 2021). This more detailed view implies a refinement of each (de)motivating style into two more specific teaching approaches, while a more integrative perspective entails a more progressive distinction among styles (Aelterman et al., 2019; Escriva-Boulley et al., 2021).

Focusing on teacher directiveness, PE teachers can take the lead in learning interactions (i.e., high directiveness) using structuring and controlling styles, even if structure is need-supportive and control is need-thwarting in nature (Burgueño et al., 2024; Escriva-Boulley et al., 2021). When being structured, a PE teacher provides students with instructions adapted to their ability levels, positive useful feedback, and assistance when they need to complete tasks (i.e., guiding approach), as well as communicating learning expectations and goals and consistently monitoring students' progress (i.e., clarifying approach) (Burgueño et al., 2024; Escriva-Boulley et al., 2021). When being controlling, a PE teacher pressures students to strictly follow the classroom agenda using explicit and behavioural strategies based on coercive language, powerful commands, threats of contingent punishment, and rewards (i.e., demanding approach), and using intrusive and power assertive practices based on guilt induction, intimidation, personal attacks, and public shaming (i.e., domineering approach) (Burgueño et al., 2024; Escriva-Boulley et al., 2021).

One of the contributions of the circumplex model is to situate these four styles and eight approaches in a circular structure. This implies a step in the understanding of (de)motivating teaching style from a categorical point of view to a more gradual and integrative perspective, where some approaches are close to others and can overlap (Aelterman et al., 2019; Burgueño et., 2024; Escriva-Boulley et al., 2021). Based on this renewed gradual classification of (de)motivating styles, it can be observed that the eight approaches have a remarkably ordered pattern of correlations. That is, the correlations between one approach and an adjacent approach are stronger and more positive (e. g., clarifying with demanding), while these correlations decrease in intensity and even become negative when the approaches are further apart (e. g., guiding with domineering). Thus, it has been shown that these (de)motivating styles have a direct impact on motivational outcomes (Diloy-Peña et al., 2024; Van Doren et al 2024), as shown in the following section.

High directiveness and students' affective outcomes in PE

Recent research based on SDT in PE has demonstrated that teachers' (de)motivating teaching styles are linked to a broad spectrum of students' (mal)adaptive consequences (Vasconcellos et al., 2020; White et al., 2021). The students' perception of how the PE teacher leads the classroom has been identified as a key determinant of their (mal)adaptive outcomes in PE lessons (Curran & Standage, 2017; Vasconcellos et al., 2020). Prior PE research has shown that, despite being a high directiveness style, students' perceptions of PE teachers' structure were positively associated with adaptive outcomes (e.g., experiences in PE, learning, intention to PA) (Curran & Standage, 2017; Diloy-Peña et al., 2021, 2024; García-González et al., 2023; Rodrigues et al., 2020). While, the students' perceptions of PE teachers' control were positively related to maladaptive outcomes (e.g., amotivation, oppositional defiance) (Abós et al., 2022; Behzadnia et al., 2018; Curran & Standage, 2017; De Meyer et al., 2016; García-González et al., 2023; Tilga et al., 2023). Further, negative relationships were consistently found between perceived PE teachers' structure and maladaptive outcomes (Behzadnia

et al., 2018; Burgueño & Medina-Casaubón, 2021). However, more research is still needed to clarify the relationship between perceived PE teachers' control and adaptive outcomes (Behzadnia et al., 2018; Leo et al., 2022; Rodrigues et al., 2020). Overall, further investigation is required to shed light on the potential relationships between two (de)motivating styles that are very close to each other, characterized by being highly directive, and the motivational outcomes generated in students during PE lessons.

The present study

While there is a growing body of research dedicated to exploring (de)motivating teaching approaches in PE context (Burgueño et al., 2024; Diloy-Peña et al., 2024; García-Cazorla et al., 2024; Van Doren et al., 2023), there has been limited focus on the potential outcomes of high directiveness approaches (i.e., guiding, clarifying, demanding, domineering). To the best of our knowledge, little attention has been given to how students' perceptions of the specific ways teachers lead practice time may influence their PE experiences. Specifically, only one study has analyzed the effects of structuring style compared to controlling style on the students' motivational outcomes in PE (García-González et al., 2023). However, they did not use a circumplex model-based perspective in their research. Given that PE teachers can adopt different high directiveness approaches for optimal classroom management, it seems important to explore the consequences of managing the class through structured or controlled approaches. To fill the gaps, the present study aims to examine if the most frequently used approaches of high directiveness leadership: structuring style (i.e., guiding and clarifying) versus controlling style (i.e., demanding and domineering) are the most influential on students' affective outcomes (i.e., enjoyment and boredom). Concerning the study's aim and based on previous SDT and circumplex model research (Burgueño et al., 2024; Diloy-Peña et al., 2024; García-Cazorla et al., 2024; García-González et al., 2023; Van Doren et al., 2023, 2024), we hypothesized that structuring approaches (i.e., guiding and clarifying) will positively predict enjoyment, while controlling approaches (i.e., demanding and domineering) will positively predict boredom.

Method

Participants

A convenience sample of 697 (51% girls) students between 12 and 17 years (M_{age} = 14.52; *SD* = 1.45) from four secondary schools in the Region of Aragon was recruited to participate in this cross-sectional study. The participants were distributed across various grade levels: 186 (26.69%) student of Year 7 (1º secondary education in Spain), 144 (20.66%) student of Year 8 (2º secondary education in Spain), 180 (25.83%) student of Year 9 (3º secondary education in Spain), 118 (16.92%) student of Year 10 (4º secondary education in Spain), and 69 (9.9%) student of Year 11 (1º Bachillerato in Spain). Student responses regarding teacher's high directiveness came from several groups or classes of eight different PE teachers, each of whom taught approximately 87 students of different grade levels. PE is a required subject for all secondary school students in Spain. Each student attends at least two 50-minute mixed-gender PE classes weekly. It is typical for Spanish secondary PE teachers to have a teaching workload of between 18 and 21 hours per week.

Instruments

Socio-demographic variables. Gender (coded as 1 = *Girl* and 2 = *Boy*), grade level, and age were self-reported by students.

(De)motivating teaching approaches. Students' perceptions of (de)motivating teaching approaches from their PE teachers were assessed using the student Spanish version of the *Situations-in-School in Physical Education Questionnaire* (SIS-PE; Burgueño et al., 2024). The SIS-PE outlines 12 situations that can happen in PE lessons, each followed by descriptions of four items corresponding to each (de)motivating teaching approach (i.e., a total of 48 items). Of the total items, there are 24 items to capture the teacher's high directiveness, seven as guiding (e.g., "The PE teacher gives us positive feedback, while offering help and guidance when needed"), five as clarifying (e.g., "The PE teacher announces your expectations and the rules necessary for good cooperation"), seven as demanding (e.g., "The PE teacher insists that we pay attention because we should learn it for our own benefit"), and five as domineering approaches (e.g., "The PE teacher tells us that we should be embarrassed by our behaviour and that, if we continue along that way, there will be punishment"). Students' responses were provided on a 7-point Likert scale ranging from 1 = *Does not describe my PE teacher at all* to 7 = *Describes my PE teacher extremely well*.

Enjoyment and boredom. Students' perceptions of enjoyment and boredom in PE were assessed using the Spanish version of the *Sport Satisfaction Instrument* (Baena-Extremera et al., 2012). This scale, following the stem "How much do you enjoy your PE classes?", comprises eight items, of which five measure enjoyment (e.g., "I usually have fun doing PE") and three measure boredom (e.g., "I usually get bored in PE classes"). Students' responses were provided on a 5-point Likert scale ranging from from 1 = *Strongly agree* to 5 = *Strongly disagree*.

Procedure

Prior to beginning the study, the lead researcher reached out to the school boards to explain the study's purpose and request their collaboration. Following this, families and/or legal guardians were asked to give informed consent for their children's participation, and the adolescents themselves completed a written informed consent form. Students took approximately 20 minutes to complete the questionnaires. PE teachers were not present while the students completed the questionnaires to avoid influencing their responses. This study was approved by the

Ethical Committee for Clinical Research of Aragon (PI22/363) and adhered to all ethical procedures outlined in the Helsinki Declaration for data collection.

Data analysis

Descriptive statistics (means and standard deviations), composite reliability (via McDonald's omega [ω] coefficient), and Pearson's bivariate correlations were calculated for the study variables, except for students' gender, for which Spearman's coefficient was used. To estimate the indices of the Confirmatory Factor Analysis (CFA), the model achieves an acceptable fit with values up to 3 for the ratio of χ^2 and degree of freedom (χ^2/df), higher than .9 for Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) in conjunction with scores lower than .06 of Root Mean Square Error of Approximation (RMSEA). Also, repeated measures analysis of variance (ANOVA) was conducted to describe average differences in students' perception of their PE teachers' high directiveness approaches. In the main analyses with relation to the objective of the study, a stepwise regression analysis was performed, incorporating as dependent variables the enjoyment and boredom experienced during PE lessons, and as independent variables the four high directiveness (de)motivating teaching approaches (i.e., guiding, clarifying, demanding, and domineering), introducing gender and age as covariates (Diloy-Peña et al, 2024). The level of statistical significance was set at $p < .05$. Analyses were conducted using the SPSS software (version 29.0).

Results

Preliminary results

The CFA showed a good fit to the data for (de)motivating approaches ($\chi^2_{251} = 1044.24$, $p < .001$; CFI = .91; TLI =.9; RMSEA = .06; 90% CI = .06-.07) and affective outcomes, ($\chi^2_5 = 67.19$, $p < .001$; CFI = .98; TLI = .97; RMSEA = .06; 90% CI = .05-.07).

Table 1 reports descriptive statistics, composite reliability, and bivariate correlations for all study variables. Regarding the four high directiveness approaches, mean scores are above the midpoint of the measurement scale for guiding, clarifying, demanding, and domineering. In particular, Table 2 shows repeated measures ANOVA where guiding approach was the

Table 1

Descriptive analyses, correlations and reliability between the study variables

Variable	*M*(*SD*)	ω	1	2	3	4	5	6	7
1. Guiding	5.2(1.25)	.85	-	.71**	.49**	.15**	.49**	-.38**	.08**
2. Clarifying	5.11(1.1)	.7		-	.59**	.3**	.4**	-.27**	.09**
3. Demanding	4.83(0.93)	.6			-	.48**	.3**	-.16**	.08*
4. Domineering	4.05(1.14)	.62				-	.07*	.07*	.14**
5. Enjoyment	4.07(0.87)	.87					-	-.61**	.3**
6. Boredom	2.27(0.88)	.72						-	-.17**
7. Students' gender[a]	51% girls								-

Note. [a] Spearman's rho correlation.
*$p < .05$; **$p < .01$.

Table 2

Repeated measures ANOVA between high (de)motivating teaching approaches

Variables	*M*(*SD*)	M Difference	SE	*p*	η_p^2
Guiding - Clarifying	5.2(1.25) 5.11(1.1)	0.09	0.03	.01	.01
Guiding - Demanding	5.2(1.25) 4.83(0.93)	0.37	0.04	<.001	.09
Guiding - Domineering	5.2(1.25) 4.05(1.14)	1.15	0.05	<.001	.34
Clarifying - Demanding	5.11(1.1) 4.83(0.93)	0.28	0.03	<.001	.08
Clarifying - Domineering	5.11(1.1) 4.05(1.14)	1.06	0.05	<.001	.39
Demanding - Domineering	4.83(0.93) 4.05(1.14)	0.78	0.04	<.001	.35

Table 3

Linear regression analyses between enjoyment and boredom in PE lessons with high directiveness (de)motivating teaching approaches

Variables		Non-standardised coefficients		Standardised coefficient		
		B	SE	β	Change in R^2	*p*
VD Enjoyment PE						
Step 1	Guiding approach	.33	0.02	.49	.24	<.001
Step 2	Guiding approach	.28	0.03	.4		<.001
	Clarifying approach	.09	0.03	.12	.02	.01
VD Boredom PE						
Step 1	Guiding approach	-.26	0.02	-.38	.14	<.001
Step 2	Guiding approach	-.28	0.02	-.4		<.001
	Domineering approach	.1	0.02	.13	.01	<.001

most significantly perceived high directiveness approach by students, followed by clarifying, demanding, and domineering approach.

Main results

The correlations (see in Table 1) between the approaches of high teacher directiveness followed the pattern of the circumplex model. Additionally, the guiding, clarifying, demanding, and domineering approaches were significantly and positively correlated with enjoyment. In contrast, guiding, clarifying, and demanding were significantly and negatively correlated with boredom, whereas domineering was significantly and positively correlated.

The results from the stepwise multiple linear regression analysis (Table 3) revealed that the guiding (β = .49) and clarifying (β = .12) approaches were significant positive predictors of enjoyment in PE, together explaining 26% of the variance (24% and 2%, respectively). Conversely, the guiding approach (β = -.38) emerged as a significant negative predictor of boredom, while the domineering approach (β = .13) served as a positive predictor. These two predictors accounted for 16.2% of the variance in boredom (14.4% and 1.8%, respectively).

Discussion

Despite recent research in PE context indicating that different (de)motivating teaching styles can lead to a wide range of students' outcomes (Burgueño et al., 2024; Diloy-Peña et al., 2024; García-Cazorla et al., 2024; Van Doren et al., 2023, 2024), research specifically focused on the effects on the students of how the PE teacher leads and manages the class remains limited (García-González et al., 2023). This research aims to examine if the most frequently used approaches of high directiveness leadership: structuring style (i.e., guiding and clarifying) versus controlling style (i.e., demanding and domineering) are the most influential on students' affective outcomes (i.e., enjoyment and boredom) in PE lessons. The main findings identified are the following: 1) enjoyment in PE lessons is positively predicted by high directiveness and need supportiveness teaching (i.e., guiding and clarifying); 2) boredom in PE lessons is positively predicted by high directiveness and need-thwarting teaching (i.e., domineering); and 3) boredom in PE lessons is negatively predicted by high directiveness and need-supportive teaching (i.e., guiding).

In line with the hypothesis, the results indicated that enjoyment in PE lessons was positively predicted by PE teachers' guiding approach, especially, and to a lesser extent, by their clarifying approach. These findings align with previous research based on SDT (Curran & Standage, 2017; Diloy-Peña et al., 2024; García-González et al., 2023), which showed that students' perceptions of a structuring teaching style (i.e., guiding and clarifying) were positively associated with various affective outcomes in PE lessons, such as experiences and learning. Especially, our results suggest structuring tasks in manageable steps and providing meaningful feedback that considers students' individual characteristics through a guiding approach in PE lessons may facilitate students' adaptive outcomes (Aelterman et al., 2019; Burgueño et al., 2024; Tilga et al., 2022). Similarly, using a clarifying approach by effectively communicating learning objectives and goals may slightly contribute to promoting positive experiences in PE lessons (Aelterman et al., 2019; Burgueño et al., 2024; Tilga et al., 2022). However, although both approaches appear to be adaptive and beneficial for students, it seems that a less directive approach that better supports students' needs (i.e., guiding) could have a greater impact on positive outcomes than a more directive approach (i.e., clarifying). This notion aligns with findings from Burgueño et al. (2024) and Vansteenkiste et al. (2019), which suggest that the guiding approach more strongly supports need satisfaction, whereas the clarifying approach promotes need satisfaction to a lesser degree.

Regarding boredom in PE, the findings were partially in line with the hypothesis and with prior SDT-based research in PE (Abós et al., 2022; Behzadnia et al., 2018), showing that the domineering approach, although cautiously, positively predicted boredom in PE. In this vein, it seems important for teachers to be aware that when they use a domineering approach – exerting power over students through coercive language and inducing feelings of guilt, inferiority, disappointment, or shame

to express disapproval of students' behaviors– it is more likely that students may experience negative outcomes in PE lessons (Bartholomew et al., 2018; Burgueño et al., 2024). Moreover, even when students do not perceive high levels of control, it still predicts boredom, indicating that even low levels of domineering behavior can negatively impact students. Yet, it is important to note that the demanding approach did not significantly predict students' boredom. This result aligns with previous research, suggesting that while the domineering approach may slightly contribute to students' negative experiences in PE, other more need-depriving controlling approaches, such as the demanding approach, may not directly lead to students' boredom but rather hinder potential positive outcomes (Aelterman et al., 2019; Vansteenkiste et al., 2019). This may explain why the demanding approach does not show a significant positive relationship with boredom in this study; students might perceive it as necessary for effective lesson management rather than viewing it as threatening behavior from the teacher. Additionally, students may see the demanding approach as very similar to the clarifying approach (i.e., structuring), which could further moderate its impact on boredom (Aelterman et al., 2019).

Finally, the results showed a remarkable negative prediction of students' perception of the PE teacher's guiding approach to boredom in PE lessons. These results highlight again the importance of teachers nurturing students' progress by providing appropriate help and assistance because these structuring strategies could not only boost positive affective outcomes in PE (i.e., enjoyment) but also buffer students' maladaptive experiences (i.e., boredom) (Burgueño et al., 2024; Liu et al., 2017; Rodrigues et al., 2020; Vasconcellos et al., 2020). A possible explanation could be that when PE teachers are characterized by a guiding approach, they are usually concerned with adapting the level of the learning tasks to the characteristics of their students. In this vein, if the tasks are challenging enough for students, they may turn the PE lessons into an adaptive and motivating space (Curran & Standage, 2017; Vasconcellos et al., 2020).

Limitations and future directions

While our findings build on the existing evidence of the circumplex approach in PE, it is important to acknowledge certain limitations and suggest future research directions. First, the cross-sectional design of this study limits our ability to infer causal relationships between the variables. Future research should employ longitudinal and/or experimental designs to gain a better understanding of how (de)motivating approaches impact students' outcomes over time. Second, this study evaluated (de)motivating styles solely from the students' perspective. Future research could benefit from incorporating additional sources of information, such as observations and/or teachers' perspectives, to allow for data triangulation. Third, the sampling method used in this study was non-probabilistic (i.e., intentional sampling), which means the results should be interpreted with caution. Future studies based on the circumplex model in PE should utilize probability sampling methods to enhance external validity.

Conclusions

This study highlights how PE teachers lead and manage the class affects the enjoyment and boredom of their students. Thus, teachers who adjust the difficulty of a task according to the level of the students (i.e., guiding approach) not only facilitate students' enjoyment in PE lessons but also can help buffer boredom experiences. Likewise, PE teachers who communicate their expectations to students clearly and precisely (i.e., clarifying approach) could encourage, although to a lesser extent, students' enjoyment in PE lessons. Moreover, PE teachers who use their power over students to make them accede to their requests (i.e., domineering approach), may contribute to activate students' boredom in PE lessons. Consequently, to ensure that students enjoy PE lessons, it seems recommended that PE teachers create learning environments based on a structuring style, focusing especially on the guiding approach, while avoiding or at least minimizing the use of a controlling style, especially the domineering approach.

Author contributions

Formal analysis: S.D.P., A.C.
Supervision: A.C., L.G.G.
Writing – Original draft: S.D.P.
Writing – Review & editing: S.D.P., J.G.C., C.M.R. Z.V.S., L.G.G.

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Declaration of interests

The authors declare that there is no conflict of interest.

Data availability statement

Authors elect to not share data.

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