

1 **Testing the effectiveness of the TARGET strategies on the perceived motivational climate in**
2 **physical education**

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Abstract

Grounded in Achievement Goal Theory, the aim of this study was to assess the development of four teaching interventions based on the TARGET areas (Ames, 1992) and verify their effect on the perceived motivational climate at situational level in PE classes. Participants were 580 secondary education students, aged between 11 and 15 ($M = 12.46$, $DT = 1.15$). A quasi-experimental design was carried out in four teaching units, lasting for 10 sessions each one. The intervention programme was applied in the four experimental subgroups ($n = 263$) by means of motivational strategies to generate a task-oriented climate. In the four control ($n = 317$) subgroup, students received conventional PE classes. The perceived motivational climate of each unit was measured at the end of the intervention in the different contents. Results showed significantly higher values in the experimental subgroups, in terms of perceived task-oriented motivational climate in the four teaching units, than in the control subgroups. This work highlights the need to generate specific intervention strategies for each one of the units in order to generate an optimal motivational climate in the PE classes.

Key words: teaching intervention; TARGET areas; adolescence; task-oriented climate; motivational climate.

Testing the effectiveness of the TARGET strategies on the perceived motivational climate in physical education

Introduction

Much of the existing scientific evidence today points out the numerous health benefits of regular physical activity (PA) in school-aged children and youth. Guidelines established by the World Health Organization (WHO; 2010) recommended at least 60 minutes of moderate to vigorous physical activity (MVPA) per day. However, an international systematic review throughout adolescence (10–19 years old) evidenced a progressive decline in PA levels (Dumith, *et al.*, 2011).

Specifically, Physical Education (PE) subject can be a tool to promote PA in children and adolescents in a direct (i.e., helping students to accumulate MVPA levels in the classes) and an indirect way (i.e., promoting PA outside school hours) (Sallis *et al.*, 2012; Slingerland & Borghouts, 2011). To achieve this objective, PE teachers can have an influence on motivating students both towards PE and towards PA (Gao *et al.*, 2013; Van den Bergue *et al.*, 2014), transmitting an optimal motivational climate through specific interventions for each unit (Gillison *et al.*, 2013). Thus, positive experiences in PE classes could contribute to developing more adaptive behaviours (Barkoukis *et al.*, 2010), and the levels of engagement in PA both inside and outside the PE context can be increased (Aelterman *et al.*, 2012; Jaakkola *et al.*, 2008).

However, despite the large amount of research that associates motivation in PE classes with adherence to engaging in out-of-school PA, following the trans-contextual model of motivation (Hagger & Chatzisarantis, 2012; Standage *et al.*, 2012), some qualitative studies evidenced that many students have negative experiences in PE classes (Beltrán *et al.*, 2016; Mitchell *et al.*, 2015). Similarly, a series of longitudinal studies indicate that the perceived task-oriented motivational climate, more self-determined motivation levels and enjoyment experienced in PE classes, decrease in adolescence, whilst the ego-oriented motivational climate and amotivation increase (Ntoumanis *et al.*, 2009; Yli-Piipari *et al.*, 2012). Thus, the negative experiences accumulated in PE and in sporting activities could foster physical inactivity in adolescence (Beltrán-Carrillo *et al.*, 2012).

1 It becomes essential, therefore, to study teaching intervention via the manipulation of the
2 motivational climate in the classroom. The theoretic framework used in this work is the
3 Achievement Goal Theory (Nicholls, 1989). This social-cognitive theory is comprised of different
4 constructs (i.e., goal orientation, motivational climate and state of goal involvement) that are used
5 to explain the relationship between the teaching intervention and the motivational processes that
6 are triggered both inside and outside the classroom. In this sense, teachers can manipulate the
7 motivational climate (i.e., perceptions or attributions for success or failure are defined in
8 accordance with the demonstration of ability) towards the task (i.e., evaluating self-referenced
9 improvement, personal achievement, without taking into account social comparison in the mastery
10 of the task) or towards the ego (i.e., comparative criteria are used to assess the mastery of the
11 tasks, linking success with greater inter-individual skill; Braithwaite *et al.*, 2011).

12
13 Therefore, one of the main didactic tools that teachers have to generate positive experiences in PE
14 classes is to generate a task-oriented motivational climate. There are many studies in scientific
15 literature that have shown that task-oriented motivational climate is associated with other variables
16 and consequences that affect students' motivation in PE classes. Some cross-sectional studies
17 indicate the relationship of task-oriented motivational climate with task-oriented motivational
18 orientation (e.g., Bakirtzoglou & Ioannou, 2011; Granero-Gallegos & Baena-Extremera, 2014),
19 with the satisfaction of basic psychological needs (e.g., Sánchez-Oliva *et al.*, 2014; Soini *et al.*,
20 2014), with more self-determined motivation forms (e.g., Bryan & Solmon, 2012; Moreno *et al.*,
21 2011) and with affective consequences such as enjoyment (e.g., Gråstén *et al.*, 2012).

22
23 We can find different tools to generate a task-oriented climate in PE classes, such as manipulation
24 of the different dimensions based on TARGET areas (i.e. task, authority, recognition, grouping,
25 evaluation and time) (Ames, 1992). In this sense, the teacher can design strategies related to the
26 structure (i.e., design of the session) and teaching intervention (i.e., activity during the session)
27 related to six learning scenarios: task (i.e., design and adaptation of the activities), authority (i.e.,
28 participation of students in teaching-learning process), recognition (i.e., feedback of progress and
29 effort), grouping (i.e., association, communication and belonging to the group), evaluation (i.e.,
30 participation in the evaluation and qualification process, and cognitive involvement) and time (i.e.,
31 adaptation of the length of the unit to the proposed objectives).

1 There are many international research studies that have been applied these strategies in different
2 units in the context of PE. For example, González-Cutre *et al.* (2011) performed an experimental
3 study (26 sessions) based on TARGET areas with 56 high school students in collective sports and
4 gymnastics. The results of the last study showed higher scores in the experimental group's
5 perception of the task oriented climate, autonomous motivation and lower scores in ego oriented
6 climate in PE. Recently, Cecchini *et al.* (2014) conducted another study during 12 consecutive
7 weeks in a total of 447 secondary education students, 12-17 years old, from eight different high
8 schools. The results of the last study revealed a higher perception of intentions to be physically
9 active. However, there are a few studies in the educational literature that have examined the
10 effects of the intervention programme, based on TARGET areas, at the end of a specific unit. For
11 example, a recent quasi-experimental study of Abos *et al.* (2016) evaluated the effectiveness of a
12 teaching intervention programme based on TARGET areas in 12 sessions of acrosport. The
13 experimental group showed higher values than the control group in the perceived task-oriented
14 motivational climate in the acrosport unit. Therefore, the objective of our study focuses on
15 evaluating the effectiveness of four teaching interventions based on the development of
16 intervention strategies via the manipulation of the TARGET areas for four different PE units. It
17 was hypothesized that the development of intervention strategies based on the TARGET areas,
18 specific for each unit, will generate a greater perceived task-oriented motivational climate by the
19 students.

21 Methodology

22 Research design

23
24 A quasi-experimental design was used in four units divided in
25 two groups (an experimental group and a control
26 group per unit). The classes are established by the schools and these whole classes were randomly
27 assigned to a control or experimental group.

29 Participants

30 The sample of the present study consisted of 8 PE teachers and 580 of their students from three
31 secondary schools ($M = 12.46$, $DT = 1.15$). Students were in 1st (range age: 12-13; 71.20%), 2nd
32 (range age: 13-14; 10%) and 3rd grade (range age: 14-15; 18.79%). Class sizes ranged from 25 to
33 30 students per class. Of the total number of students involved, 263 belonged to the experimental
34 group and 317 to the control group. They were distributed into the four units taught, as indicated in

1 Table 1. The inclusion criteria for selecting the study participants were to adequately complete the
2 instrument related to the study variable, and continuously and actively attend the sessions (over
3 90% of the total number of sessions) in each unit. Seven of the teachers were male and one was
4 female. The criteria for school selection included: (1) at least two PE teachers in the same grade;
5 (2) high school from the same region with the same official curriculum. Each unit was taught by 2
6 different PE teachers. The criteria for teacher selection included: (1) degrees in Sport and Exercise
7 Science for experimental and control group teachers; (2) knowledge of the Achievement Goal
8 Theory and motivational strategies based on TARGET areas for experimental group teachers.

9
10
11 [INSERT TABLE 1]

12 13 **Instruments**

14 To measure the perceived motivational climate at situational level, the Perceived Motivational
15 Climate Scale (PMCS; Biddle *et al.* 1995) was used, translated into Spanish and adapted to PE
16 (Gutiérrez *et al.*, 2011). This instrument was modified, adapting the initial sentence to each one of
17 the curricular contents (i.e., “In the *** classes our PE teacher ...”). It is comprised of 19 items,
18 grouped into two factors that measure perceived task-oriented motivational climate (nine items;
19 e.g., “The teacher feels satisfied when they all improve”) and perceived ego-oriented motivation
20 climate (ten items; e.g., “The teacher only pays attention to those who do the exercises well”).
21 The response format used in the measurement instrument was indicated on a Likert scale, with a
22 response range from 1 to 5, where (1) corresponds to totally disagree and (5) corresponds to totally
23 agree with the formulation of the question. The reliability analysis obtained Cronbach’s alphas
24 values in each one of the TU for perceived task- and ego-oriented climate of .80 and .80 (long-
25 distance running), .85 and .73 (corporal expression), .84 and .71 (sport orienteering) and .75 and
26 .80 (volleyball), respectively.

27 28 **Procedural and ethical considerations**

29 The study received ethical approval from the University of Zaragoza. To develop the study, firstly,
30 the different secondary schools that participated in the study were contacted to carry out the
31 research. The PE teachers were informed of the objectives of the study and their consent to give
32 the unit (long-distance running, corporal expression, sport orienteering or volleyball) in the
33 experimental subgroups was requested. The parents/tutors passive consent was obtained through
34 the different schools. The units were developed with two weekly sessions lasting for 50 minutes,

1 as established by the secondary schools, with a total of 10 sessions each one. The research will be
2 developed in four units integrated into the annual didactic programmes of four PE teachers,
3 respecting the official curriculum in force at content and evaluation criteria level for Compulsory
4 Secondary Education (Spanish Organic Law of Education, 2006). The questionnaire aimed at
5 evaluating perceived motivational climate developed in each TU was given out in the classroom
6 after the last session of each one of the units, in the presence of one of the study researchers and
7 without the PE teacher, who had developed the unit. The time required to complete the
8 questionnaire was less than 10 minutes. With respect to ethics, the guidelines of the Declaration of
9 Helsinki (2008) were applied.

11 **Intervention programme**

12 The intervention programme to generate a greater task-oriented climate was developed by 4 of PE
13 teachers through specific strategies for each unit, taking the guidelines of the six TARGET areas
14 (i.e., task, authority, recognition, grouping, evaluation and time) established by Ames (1992). To
15 this end, a specific training programme was carried out with the 4 teachers of experimental groups,
16 through four sessions lasting for a total of 30 hours, aimed at understanding the theoretical
17 background and motivational strategies that can be implemented in PE classes for each one of the
18 units. To develop the unit on long-distance running, the work carried out was based on the
19 proposal of Julián *et al.*, (2012); the guidelines established in Almolda *et al.* (2014) were used as
20 support in the orienteering unit, the proposal of Carmen-Peiró *et al.* (2012) with the skipping rope
21 unit, and finally, the proposal made by Bágüena-Mainar *et al.* (2014) in the volleyball unit. Later
22 on, the main researcher and a team of experts supervised the planning of each one of the sessions
23 and monitored the development of the unit to ensure that the intervention programme was being
24 correctly implemented. The strategies applied, in general terms, in the different contents are
25 summed up below, giving some specific examples for each one of the unit.

26
27 With regards to the “Task” area of the TARGET, a large variety of teaching-learning situations
28 were designed, adapted to the different levels of skill, and therefore representing a continuous
29 personal challenge for all students (e.g., in the long-distance running unit, the time and distance to
30 run were progressively increased in each one of the work groups, varying the design of the routes
31 and the environments of the sessions). During the development of the different unit, students were
32 given the possibility to design and give some warm-ups/activities/sessions to achieve the proposed
33 objectives (e.g., in the orienteering unit, the students evolved from a known and familiar space, as

1 is the classroom, to a known and nearby space as is the school playground, to a known and distant
2 space as is a nearby park). In all the units, the benefits and objectives pursued by their
3 development were underlined, explaining the importance of each one of the activities proposed
4 and their relationship with a series of healthy living habits (e.g., in the volleyball unit, students
5 learn to do specific warm-up sessions for this type of activity).

6
7 In the “Authority” area, students were progressively involved in decision-making and in
8 responsibility within their teaching-learning process (e.g., in the corporal expression unit, students
9 could select the different challenges in each one of the modalities to adapt them to their level of
10 competence in the task; they could also choose aspects related to the choreography, such as the
11 number of repetitions, links used, music, clothing, etc.). Likewise, different roles were established
12 throughout the sessions, to involve the students in the different types of leadership (e.g., in the
13 volleyball unit, the role of scorer, player and referee were established). Finally, student self-
14 management was fostered, providing practice spaces and didactic resources to reach the proposed
15 objectives (e.g., in the long-distance running unit, a didactic book was provided with the different
16 running spaces in the city).

17
18 In the “Recognition” dimension, individual and group progress was reinforced at all times,
19 rewarding aspects achieved with respect to the didactic objective, commitment to the activity,
20 management of the material, etc., and avoiding between-student comparisons (e.g., in the long-
21 distance running unit, by way of the curricular material handed out during each session, the
22 teacher provided emotional and learning feedback to each of the level groups). Likewise
23 interrogative feedback was used to cognitively involve students in their teaching-learning process,
24 and draw internal logic from the different bodies of knowledge of the activity (e.g., in the corporal
25 expression unit the teacher asked all the students questions related to the action rules of this
26 activity, "how to turn the rope, how to enter on the good side and on the bad side, how to jump,
27 how to get out, etc." adapted to the different exercise levels).

28
29 Regarding to the "Grouping" dimension, the teacher made it possible to form different types of
30 groups during the session throughout the unit, using different criteria such as: ability (e.g., in the
31 long-distance running unit, a study was carried out by level group based on the initial reference
32 situation), social proximity (e.g., in some sessions of the corporal expression unit, students could
33 freely form groups), heterogeneity (e.g., in the orienteering unit, the work groups had to contain

1 students of both genders), randomisation (e.g., random assignment by numbers or colours to form
2 a team of four in volleyball). The aim of these strategies was for the students to continuously work
3 with different companions in order to improve social relations, group membership and motor
4 competence. Group changes could only be justified due to a lack of adaptation of the task level or
5 incorrect functioning of the group work (e.g., in the long-distance running unit, students could
6 change level if the rhythm did not adapt to their level, either due to excess or the contrary).

7
8 Insofar as "Evaluation" is concerned, diagnostic situations were designed to discover the students'
9 initial level and propose the different learning activities based on the needs that arose (e.g., in the
10 corporal expression unit, the initial test provided information about the challenges that they were
11 able to cope with and those they were not). Based on this, the self-referential improvement was
12 evaluated as well as the acquisition of the different skills and competences (i.e., in the long-
13 distance running unit, the initial evaluation referring to rhythm was taken into account, via the
14 five-minute test). The teacher involved students in the evaluation process, providing them with the
15 option of participating in choosing the percentages of their evaluation, and proposing a co-
16 evaluation of their companions and a self-evaluation of the unit (i.e., in the orienteering unit,
17 students were allowed to weigh up the different evaluation tests, respecting some margins
18 established by the teacher). A private and significant evaluation was used at individual and group
19 level, during the entire teaching-learning process (i.e., in the volleyball unit, the teacher
20 periodically informed the students about the progress made, justifying the different qualifications
21 obtained and re-orienting their action in order to achieve the objectives proposed).

22
23 Finally, in the dimension related to "Time", at least 10 sessions were reserved, in all the unit, to
24 reach the different didactic objectives, respecting the individual and group learning rhythm in each
25 one of the activities proposed (e.g., in the corporal expression unit, students could add another
26 session to rehearse the final choreography). On the other hand, the teacher helped students
27 establish the planning and structuring of their learning (e.g., in the long-distance running unit, the
28 teacher provided the work programme in each one of the sessions, both inside and outside the
29 classroom).

30 31 **Statistical analysis**

32 To analyse the reliability of the factors of the questionnaire, the Cronbach's Alpha coefficient was
33 used. Mean and standard deviation were used for the descriptive analysis, and a one-factor

1 (Group) MANOVA was performed for the analysis of differences, with the relevant univariate
2 analyses in the different contents derived from this analysis. The partial eta-squared statistic (η_p^2)
3 was used as an indicator of the effect size to evaluate the magnitude of the differences, as it
4 eliminates the effect of the size from the sample. The statistical program, SPSS 19.0, was used in
5 the different analyses conducted.

6 7 **Results**

8 Firstly, a main effect of the intervention carried out is observed (Wilks' Lambda = .982; $F(2, 571)$
9 = 1.728; $p < .001$; $\eta_p^2 = .074$). Furthermore, to evaluate the differences found in the different
10 variables and in the different contents, the univariate contrasts are presented in Table 2. Regarding,
11 perceived task-oriented climate, significantly higher values are obtained for the experimental
12 group with respect to the control group in the four contents. In the perceived ego-oriented climate,
13 significantly lower values are only obtained in the experimental group with respect to the control
14 group in the corporal expression content.

15 [INSERT TABLE 2]

16 17 **Discussion**

18 The objective of the study was to evaluate the effectiveness of four teaching interventions based
19 on the development of specific strategies via the manipulation of the TARGET areas. The initial
20 hypothesis postulated that the development of specific intervention strategies for each unit, and
21 based on the TARGET areas (Ames, 1992), would generate a greater perceived task-oriented
22 motivational climate by the students. Analysis of the results supports the constructs offered by the
23 Achievement Goal Theory, so the hypothesis is confirmed.

24
25 The results obtained in the analysis of differences, highlight the effectiveness of the four
26 interventions in the experimental subgroups, giving rise to significantly higher values in perceived
27 task-oriented climate by the students with respect to the control subgroups. Findings appear to
28 show that intervention programmes based on specific intervention strategies, for each unit, are
29 effective in order to obtain a greater perceived task-oriented motivational climate in PE classes at
30 situational level, in different contents. In this regard, the guidelines of the six TARGET
31 dimensions (i.e., task, authority, recognition, grouping, evaluation and time) may be very useful to
32 teaching staff in order to manipulate the motivational climate of the classroom, which will be

1 essential to optimise the PE teaching-learning process in general, and the different contents, in
2 particular.

3
4 The results of the present study concur with other intervention studies that have implemented
5 strategies related to six TARGET areas (Ames, 1992) in a short period of time (10-12 sessions).
6 Recently, Abos *et al.* (2016) and Sevil *et al.* (2016) found that the use of specific strategies based
7 on TARGET areas in acrosport and skipping rope were effective to generate a greater perceived
8 task-oriented motivational climate in PE units. However, other cuasi-experimental studies not
9 obtained similar results after an intervention as the present study. For example, Cuevas *et al.*
10 (2012) conducted an intervention programme of 16 sessions (6 sessions of games and sports and
11 10 sessions to dancing and preparing choreography for gymnastics) on 169 high school students.
12 The results of the last study only showed a significant decrease of the perception of ego oriented-
13 climate. This could be due to the short duration of one of the unit, highlighting the need to carry
14 out prolonged interventions of around 10 sessions in order to obtain significant results
15 (Braithwaite *et al.*, 2011). Likewise, the frequency and intensity with which the intervention
16 strategies have been applied also seem to be important factors to achieve greater optimisation of
17 the motivational climate (Braithwaite *et al.*, 2011).

18
19 The effect of specific interventions for different contents, following the Hierarchical Model of
20 Motivation (Vallerand, 2007), is of great importance in PE classes as the development of an
21 optimal motivational climate at situational level (i.e., unit in PE) may generate a prolonged effect
22 in the classroom at contextual level (i.e., PE classes), maintaining a prolonged effect after the
23 teaching intervention (Digelidis *et al.*, 2003; Valentini & Rudisill, 2004).

24
25 Furthermore, this greater perceived task-oriented motivational climate may also develop an
26 improvement in the motivational processes, giving rise to positive and more adaptive
27 consequences in PE classes. Other intervention studies show that task-oriented motivational
28 climate is associated with the improvement of other variables that produce higher levels of self-
29 determination in the PE classes (e.g., Jaakkola & Likkonen, 2006; Wallhead & Ntoumanis, 2004)
30 as well as behavioural consequences, such as a greater increase in PA levels (e.g., Belton *et al.*,
31 2014; Cecchini *et al.*, 2014), emotional consequences, such as greater enjoyment (e.g., Barkoukis
32 *et al.*, 2008) and cognitive consequences, such as greater learning (e.g., Morgan & Carpenter,
33 2002) or greater perception of skill and effort (e.g., Morgan & Kingston, 2008).

1
2 Regarding the results associated with perceived ego-oriented motivational climate, significantly
3 lower values are only noticed in the corporal expression content. This may be due to the fact that
4 the main objective of the intervention programme of this study was focused on increase perceived
5 task climate and not to reduce the perception of ego climate. In this sense, the results obtained in
6 this work are in line with a substantial body of research grounded in Achievement Goal Theory, as
7 the relationship between task-oriented and ego-oriented motivational climate is orthogonal (e.g.,
8 Horn *et al.*, 2012.; Moreno-Murcia *et al.*, 2011; Roberts *et al.*, 2007). This means that the increase
9 in task-oriented motivational climate does not lead to a decrease of the ego-oriented motivational
10 climate.

11
12 These results highlight the importance acquired by the teaching intervention in the PE context, to
13 achieve an optimal motivational climate. To this end, the implementation of intervention strategies
14 must not only focus on improving the task-oriented motivational climate, but a decrease in ego-
15 oriented motivational climate is vitally important to generate greater optimisation of the teaching-
16 learning processes (e.g., Soini *et al.*, 2014).

17
18 Finally, the main limitations in this study must be taken into account. Firstly, a lack of pre-test
19 measurements only allows comparing the final scores of control and intervention groups on
20 perceived motivational climate. However, it is difficult to make a pre-test measurement when
21 carrying out an evaluation of the motivational climate associated with a specific unit in which
22 students hardly had any previous experience. Therefore, it could be important to make a
23 preliminary evaluation at contextual level of the perceived motivational climate in PE classes
24 before carrying out interventions in different units. Future intervention studies in PE units could
25 evaluate other variables like satisfaction or frustration of basic psychological needs or self-
26 determined motivation levels experienced by the students. Thus, more comprehensive evaluations
27 of the interventions carried out by the teachers in different contexts would be possible, thus
28 helping understand those elements that determine students' motivation in PE.

29 30 **Practical application**

31
32 The manuscript topic has the potential to add to the extant literature in this domain by detailing
33 specific TARGET strategies that may facilitate students' perception of a task-involving climate
34 across different units. These results highlight the importance acquired by the teaching intervention

1 in the PE context, to achieve an optimal motivational climate. To this end, the implementation of
2 intervention strategies must not only focus on improving the task-oriented motivational climate,
3 but a decrease in ego-oriented motivational climate is vitally important to generate greater
4 optimisation of the teaching-learning processes (e.g., Soini *et al.*, 2014).

6 **Conclusions**

7 To finish, we can draw some conclusions from our study, namely, the effectiveness of the use of
8 the TARGET areas regardless of the internal logic of the content (i.e., individual actions,
9 cooperation-opposition actions, artistic-expressive actions and actions in the natural environment).
10 Therefore, we highlight the need to develop specific intervention strategies for each unit, as this is
11 a basic didactic tool to increase the perceived task-oriented motivational climate in students.

12
13 To this end, we believe it advisable to highlight the need to develop work documents and specific
14 curricular materials in the different contents integrated into the PE classes, to provide teachers
15 with resources to facilitate the development of effective interventions in order to create an optimal
16 motivational climate. Likewise, the teaching discourse must accompany the strategies used, and
17 become the most direct intervention channel that the PE teacher has over the students.

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- 18

1 Table 1. Distribution of the participants.

Units	Year	Control group	Experimental group
Long-distance running	1 st ESO	123	71
Corporal expression	1 st ESO	111	108
Sport orienteering	3 rd ESO	65	44
Volleyball	2 nd ESO	18	40

2

3

1 Table 2. Analysis of differences for each unit after the intervention programme.

Content	Variable	Experimental group		Control group		Contrasts between groups			
		<i>M</i>	<i>DT</i>	<i>M</i>	<i>DT</i>	<i>F</i> (1, 572)	<i>p</i>	η^2	95% CI diff.
Long-distance running	Task Climate	3.97	0.57	3.74	0.56	10.35	.001	.018	[.09, .38]
	Ego Climate	2.86	0.62	2.92	0.57	0.59	.441	.001	[-.23, .10]
Corporal expression	Task Climate	4.65	0.35	4.34	0.52	22.59	<.001	.038	[.18, .44]
	Ego Climate	2.59	0.58	2.93	0.59	20.88	<.001	.035	[-.50, .20]
Sport orienteering	Task Climate	4.11	0.53	3.73	0.52	16.36	<.001	.028	[.20, .57]
	Ego Climate	2.89	0.39	2.96	0.47	0.41	.522	.001	[-.29, .15]
Volleyball	Task Climate	4.56	0.29	4.24	0.30	5.30	.022	.009	[.05, .59]
	Ego Climate	2.74	0.61	2.76	0.52	0.01	.907	.000	[-.33, .30]

2 **Note:** CI = Confidence interval; Diff = Difference.