Exploring the Relationships Among Achievement Goal Theory, State Anxiety, and Intentions to Be Physically Active

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Abstract

Background: Participating in physical activity has been shown to reduce symptoms of anxiety, but the reasoning behind this explanation has not been well-established in the literature. Previous research on this topic has identified low confidence as a possible reason for anxiety in physical activity. Therefore, Achievement Goal Theory (AGT) could be one framework to help better understand this phenomenon. **Aims and Objectives:** The aim of this study was to investigate the interrelationships among AGT constructs (goal orientations and perceived motivational climate), state anxiety, and intentions to be physically active. **Study Design:** After IRB approval, a sample of 531 participants (73.3% female) was engaged from a large public university in the Southeastern United States. **Setting:** The consenting individuals completed questionnaires related to the hypothesized construct. The range of ages of the participants was 18 to 36 years with a mean of 20.71 years. Data were collected late on in the semester after a perceived motivational climate was established. **Materials and Methods:** Participants completed the following questionnaires: the Achievement Goal Questionnaire for Sport, competence valuation items from Elliot et al. (2000), perceived competence items from Intrinsic Motivation Inventory (IMI), Perceived Motivational Climate Questionnaire in Physical Activity Settings, adapted anxiety scale from Thill and Curry (2000), Chatzisarantis and colleagues' (1997) three items, and Godin and Shephard's (1985) Leisure Time Exercise Questionnaire. **Statistics:** Descriptive statistics were run first and then correlations were run among all continuous variables. Following the correlations, two blocked regressions were evaluated examining achievement goals and then perceived climate's influence on state anxiety. **Results:** There was a negative relationship between state anxiety and the following constructs: perceived competence, intent, mastery-approach goals, and climate. Positive relationships existed between state anxiety and the avoidance referencing and performance-approach goals and climate. Additionally, adopting mastery-approach goals were found to be negative predictors of anxiety. From these results, AGT may be a suitable framework to explain why some individuals experience anxiety in physical activity settings. **Conclusion:** Adopting avoidance-valanced goals are linked with more state anxiety and lower intentions. Fostering a mastery-approach climate can result in low anxiety and lead to adherence to the activity. Because of this, teachers and coaches should promote a mastery-approach climate.

Keywords: Achievement Goals, State Anxiety, Intentions, Motivation.

INTRODUCTION

Robust evidence exists supporting the notion that being physically activity can lead to lower levels of anxiety [1,2]. Anxiety has previously been defined as an individual's reaction to a stressful situation and is typically incited by uncertainty or feelings of helplessness [3]. Despite the consistent evidence, the rationale explaining the anxiolytic effects of physical activity has not been confirmed. Some mechanisms conjecture that the uneasy feelings arise due to low confidence in one's abilities [4]. Due to this reasoning, the Achievement Goal Theory (AGT) could be a suitable structure to investigate why some individuals experience anxiety in physical activity settings. This theory helps to describe how individuals behave in an evaluative setting based on the goal they adopt [5].

Mastery goals are defined as goals focused on improving upon one's previous behavior or mastering a task. Conversely, performance goals are norm-referenced, and success is defined as being the best at a task [6]. Emotions have been identified as correlates of achievement goal orientations [7]. For example, adopting performance goals is often associated with negative emotions such as anxiety because the outcome is uncontrollable and externally referenced [8]. Mastery goals, due to their more controllable outcome and positive consequences, are not connected to these negative emotions [8]. However, in exploring achievement goals and anxiety, another construct, perceived competence, is vital to consider. According to Abrahamsen and associates [9]. perceived competence is viewed as a moderate between goal

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orientation and feelings of anxiety; if an individual believes they possess the skill to reach their goal (has high perceived competence), then they are not as susceptible to anxiety when adopting performance goals [9]. On the contrary, if an individual adopts a performance goal but does not believe they have the ability to be successful (has low perceived competence), then they are more prone to experience anxiety [10]. Adopting mastery goals are consistently related to lower levels of anxiety, independent of perceived competence.

Competence valuation, defined as the level of weight an individual puts on successfully performing a task, is also an important determinant to consider. Higher levels of competence valuation usually result in individuals using more self-determined forms of motivation [11]. It is also possible that competence valuation negatively influences behavior. For instance, self-handicapping may occur if competence valuation is high, but the individual does not have the physical skill to be successful [12].

AGT was later enhanced to align with previous motivational theories such as McClelland [13]. These earlier frameworks suggested that not only can individuals adopt goals to approach success, but they can also adopt goals of avoiding failure. The 2x2 AGT framework developed by Eliot [14,15]. proposed four goals based how success is defined and the valence of the goal into consideration. The first goal, mastery-approach goal, is designated as mastering a task and is positive in valence [16]. Next, mastery-avoidance goals are considered negative in valence and define success as not performing worse than the last time. Another key characteristic of a mastery-avoidance goal is the underlying fear of failure associated with this goal orientation [15]. The third goal is known as performance-approach. Adopting this goal means the objective is to outperforming others. The last goal, performance-avoidance, is associated with avoiding normative incompetence [14]. Using the 2x2 expanded model of AGT is advantageous for this study because the negatively-valanced avoidance goals are included. Previous research has consistently demonstrated that the avoidance-framed goals are related to higher levels of anxiety in a diverse samples and situations [17-19].

Motivational climate, the environment created by teachers and coaches, is another critical aspect of AGT that can help understand this relationship. Abrahamsen and colleagues [9]. even stated that climate may have more influence on anxiety in comparison to the four goal orientations. There are two motivational climates, mastery and performance. A mastery climate is described as a climate in which the manager supports learning and improvements for each individual. This climate is often associated with better consequences such as low levels of anxiety [20]. The second climate, known as performance climate, is known as an environment in which norm-referenced comparisons are valued. Performance climates are often related to more detrimental outcomes including higher levels of anxiety [21].

Since there is an expanded model for goal orientations, it is possible that four climates exist as well. Guan [22]. was the first to propose a model with four motivational climates. The first possible climate, mastery-approach, is an environment focused on encouraging all members to improve upon their skills. The second climate, mastery-avoidance, is defined as a climate dedicated to members not losing skill [22]. Next, the performance-approach climate is a climate where managers stress competition and focus mostly on the most able individuals. Finally, the last climate, performance-avoidance, is described as avoiding externally referenced incompetence [22]. Since this model is relatively new, there is limited research available currently.

This study's purpose was to explore how the constructs of interest relate to one another and to propose AGT as an explanation for the anxiolytic effects of physical activity. These hypotheses were tested.

Hypothesis$_1$: Perceiving a mastery-approach climate and state anxiety will demonstrate negative relationships with each other and perceiving a mastery-approach climate will be positively related to intending to persist in the activity, independent of competence valuation, goal orientations, and perceived competence.

Hypothesis $_2$: Perceiving an avoidance-framed climate will be positively associated with state anxiety and negatively associated with intending to persist in the activity.

MATERIAL AND METHODS

Participants

A total of 531 participants (25.8% male, 73.3% female, .9% unreported) enrolled in physical activity classes at a sizeable university in the Southern United States were recruited for this study. Examples of activity classes participants were recruited from include aerobic dance, jogging, tennis, weightlifting, etc. The consenting participants ages ranged from 18-36 years with a mean age of 20.71± 1.9 years. Before the study, IRB approval was permitted, and each participant signed a consent form.

Instrumentation

Goal orientations. Goal orientations were evaluated via the Achievement Goal Questionnaire for Sport (AGQ-S) [23]. This instrument has12 questions, three questions examining each orientation. For this instrument, participants were prompted to consider how they felt about participating in their activity class and were to react to each question with a 7-point Likert scale. An example of a question assessing mastery-approach goals was, "It is important for me to master all aspects of my performance." This instrument has demonstrated appropriate levels of validity and reliability [23].

Competence Valuation. The two-item Elliot and colleagues' [12]. competence valuation measures were used to assess competence valuation. Examples of items from this questionnaire include, "I care very much about how I do on this activity." Participants were asked to respond to the questions via a 7-point Likert-type scale. This instrument has previously exhibited sufficient reliability and validity [12].

Perceived competence. The perceived competence scale, a total of five questions, from the Intrinsic Motivation Inventory (IMI) was used to assess this construct [24]. This scale prompted subjects to answer prompts such as, "I think I am pretty good at this activity" and "After participating in this activity, I feel pretty competent" on a 7-point Likert scale. This inventory has previously been used as a valid and reliable way to assess perceived competence [24].

Perceived motivational climate. Guan's [22]. Perceived Motivational Climate Questionnaire in Physical Activity Settings (PMCQPAS) was employed to evaluate perceived motivational climate. This instrument has three questions for each motivational climate for a total of 12 questions. Participants were required to answer questions using the prompt, "In this class, my instructor…" on a 7-point Likert scale. For instance, mastery-approach climates were evaluated based on questions such as: "… [my instructor] is happy when we are improving after showing some effort." Guan's questionnaire has displayed suitable quantities of reliability and validity [22].

State anxiety. To assess state anxiety, a modified form of Thill and Curry's [25]. anxiety scale was used. The adapted scale used consisted of four items ("When I think about participating in this class, I am apprehensive about making mistakes, I experience unpleasant feelings

before this class", etc.). For this inventory, the subjects responded to the questions on a 5-point Likert-type scale. This survey has previously been used as a measure for state anxiety [25].

Intentions. Chatzisarantis and colleagues' [26]. scale was modified and used to assess intention for this study. Examples of items include: "After this class is over, I intend to participate in this activity again." Participants reacted to the questions on a 7-point Likert-type scale. This questionnaire has been used to assess intentions previously and have demonstrated appropriate validity and reliability [26].

Physical activity. The final question from Godin and Shephard's [27]. Leisure Time Exercise Questionnaire was used as the assessment of physical activity. The participants responded to the prompt, "Considering a 7-day period, during your leisure-time, how often do you engage in any regular activity long enough to work up a sweat?". The participants selected one of the following responses: "often, sometimes, or never/rarely" [27].

Procedure

After IRB approval was granted and consent was given from each participant, questionnaires were dispersed during a physical activity class period. Measurements for this study were collected near the end of the semester after a climate had been fully established. During data collection, no instructors were present, and the researched discussed the nature of the study and gave instructions for completing the instruments including the importance of honestly. It was also noted that all data were anonymous and safely secured, and no names were collected during the process.

Statistical Analysis

To analyze the data, Statistical Package for the Social Sciences (SPSS) was used. The data were cleaned and checked for outliers and any missing data. After this, descriptive statistics were analyzed. Then, bivariate correlations were run to investigate interrelationships among constructs. Last, regression models were used to test the two hypotheses. The first blocked model examined state anxiety and the second blocked model evaluated intentions.

RESULTS

First, all of the descriptive statistics was analyzed. The output including Cronbach's alpha, means, and standard deviations are displayed in Table 1. All variables displayed sufficient coefficients of internal consistency with ranges from .71 to .92 [28]. After the descriptive statistics were analyzed, correlations were enacted to evaluate connections among constructs. The results from the bivariate correlations are presented in Table 1 as well. Since the sample size was large, very small correlational coefficients were deemed statistically significant. However, the interpretations of significance should be contemplated via the shared variance between variables. Evaluations of relationships are based on the following: a coefficient of .1 is deemed a small relationship, .3 is observed as moderate in size, and .5 and greater are considered large associations between variables [29].

Based on the results of the correlations, all four goal orientations demonstrated positive relationships. Furthermore, the association between the performance goals was large in size. The mastery-approach goals established a moderately strong and positive relationship with competence valuation. On the other hand, mastery-avoidance goals and performance-approach goals were also positively related with competence valuation, at a small level. There were positive relationships between perceived competence and competence valuation as well as -approach goals. Perceiving a mastery-avoidance

climate was moderately related to a performance-avoidance climate. Additionally, adopting mastery-approach goals demonstrated a small but positive relationship with mastery climates; however, none of the remaining relationships regarding the goal orientations or climates existed in the data. As expected, adopting mastery-approach goals, the competence constructs, and perceiving a mastery-approach climates were negatively related to state anxiety.

Concerning physical activity, the subjects specified their level of physical activity using: "often, sometimes, or never/rarely physically active." To analyze these responses, the data were transformed into a categorical variable. In the data, there were very few retorts of "never/rarely physical active." Because of this, the category of "never/rarely physically active" was combined with "sometimes physically active." This resulted in two categorial groups: "never/rarely/sometimes physically active" signified from here on out as "less active" and those who responded that they were "often physically active" now called "more active." The frequency of those in the "less active" group accounted for 272 participants, while there were 247 participants in the "more active" grouping. Twelve of the participants did not report their level of physical activity. The means for each categorical physical activity group can be found in Table 2.

Then, group effects for physical activity differences on perceived competence, goal orientations, climate perceptions, competence valuation, and intentions to continue the activity were analyzed using multivariate analysis of variance (MANOVA). The results of the MANOVA exhibited a small to moderate, yet significant influence (Wilks' Lambda = .959, partial eta square = .041, $F_{(2, 528)}$ = 10.95, $p<.001$). Analyses of variance (ANOVAs) were then utilized to evaluate differences among variables. The results of the ANOVAs conveyed significance among all variables. Specifically, adopting mastery-approach goals [$F_{(1, 517)}$ = 16.56, $p<.001$], competence valuation [$F_{(1, 517)}$ = 49.78, $p<.001$], perceived competence [$F_{(1, 517)}$ = 16.02, $p<.001$], state anxiety [$F_{(1, 517)}$ = 16.61, $p<.001$], and intentions to be active [$F_{(1, 517)}$ = 9.606, $p=.002$] significantly varied by physical activity level. According to Cohen (1992), a small partial eta square is .01, medium is .06, and large is .14.

Afterward, regression models were run to examine the hypotheses; the output of the first blocked regression model predicting anxiety is shown in Table 3. The initial step of the regression included the four goal orientations, perceived competence, and competence valuation were entered as predictors of state anxiety. In this first step of the model, the avoidance framed goals were discovered to be significant predictors of state anxiety. The second step of the regression then included the four motivational climates. After adding these predictors, the regression model increased slightly with 20.4% of the variance explained (adjusted R^2= .204, $F_{(6, 524)}$ = 14.6, p= <.001). Within this final model, the avoidance framed goals as well as perceived competence were recognized as significant.

Additionally, the only climate resulting in a significant result was perceiving a mastery-approach climate.

Similar rationale was enacted with predicting intentions to participate in the activity in the future; the first model included the goal orientations, perceived competence, and competence valuation and the second step added in the four climates. The results of the regression models predicting intentions is reported in Table 4. The first step of the model resulted in only competence valuation significantly predicting intentions. Including the climates into the regression analysis resulted in an increase of the variance explained to 35% (adjusted R^2= .35, $F_{(6, 524)}$ = 29.57, p= <.001). None of the four climates were found to be significant predictors of intentions to be active in the future.

Table 1: Descriptive statistics and correlations

	MApG	MAvG	PApG	PAvG	CV	PC	MApC	MAvC	PApC	PAvC	SA
MAvG	.31†	1									
PApG	.28†	.39†	1								
PAvG	.15†	.40†	.76†	1							
CV	.61†	.20†	.26†	.1*	1						
PC	.36†	-.21†	.06	-.1*	.45†	1					
MApC	.27†	.04	.09*	.07	.24†	.22†	1				
MAvC	-.00	.09*	.12†	.15†	.05	.01	-.00	1			
PApC	-.11*	.04	.07	.04	-.11*	-.11*	-.29†	.4†	1		
PAvC	-.13†	.09*	.08	.08	-.07	-.04	-.11*	.61†	.52†	1	
SA	-.17†	.24†	.10*	.20†	-.18†	-.39†	-.18†	.13†	.15†	.12†	1
Int	.35†	.06	.09*	-.03	.58†	.34†	.14†	-.07	-.14†	-.13†	-.21†
M	5.56	3.94	4.15	4.23	5.27	5.45	5.91	2.71	1.89	1.93	1.93
SD	1.11	1.55	1.66	1.66	1.23	1.19	1.26	1.42	1.13	.78	.78
α	.87	.86	.90	.89	.86	.89	.84	.82	.79	.71	.71

Note. MApG= mastery approach goal, MAvG= mastery avoidance goal, PApG= performance approach goal, PAvG= performance avoidance goal, CV= competence valuation, PC= perceived competence, MApC= mastery approach climate, MAvC= mastery avoidance climate, PApC= performance approach climate, PAvC= performance avoidance climate, SA= state anxiety, Int= intention. *p<.05, †p<.01.

Table 2: Group means for physical activity

		MApG	MAvG	PApG	PAvG	CV	PC	MApC	MAvC	PApC	PAvC	SA	Int
Low PA	M	**5.37**	4.02	4.09	*4.36*	**5.1**	**5.11**	5.81	2.68	1.92	1.91	*2.05*	**5.02**
	SD	1.17	1.50	1.60	1.61	1.16	1.22	1.34	1.39	1.19	1.06	.80	1.69
High PA	M	**5.76**	3.81	4.16	*4.07*	**5.45**	**5.81**	6.00	2.73	1.86	1.92	*1.77*	**5.48**
	SD	1.03	1.60	1.74	1.72	1.28	1.04	1.12	1.45	1.07	1.10	.72	1.67
Total	M	5.56	3.92	4.13	4.22	5.26	5.44	5.90	2.70	1.89	1.91	1.92	5.24
	SD	1.12	1.55	1.67	1.67	1.23	1.19	1.27	1.41	1.13	1.08	.78	1.69

Note. Italics indicates significance at p<.05; Bold indicates significance at p<.01.

Table 3: Regression analysis predicting state anxiety

	Unstandardized coefficients		Standardized coefficients		
	B	SE	Beta	t	p
Block 1					
MApGoal	-.08	.04	-.11	-2.2	.0*
MAvGoal	.09	.02	.17	3.53	.00†
PApGoal	-.00	.03	-.01	-.09	.93
PAvGoal	.06	.03	.13	2.13	.03*
CV	-.02	.03	-.03	-.66	.51
PC	-.18	.03	-.28	-5.8	.00†
Block 2					
MApGoal	-.06	.04	-.09	-1.7	.09
MAvGoal	.08	.02	.16	3.40	.00*
PApGoal	-.01	.03	-.01	-.23	.82
PAvGoal	.06	.03	.13	2.07	.04*
CV	-.02	.03	-.03	-.59	.56
PC	-.18	.03	-.27	-5.6	.00†
MApClimate	-.05	.02	-.09	-2.0	.04*
MAvClimate	.05	.03	.1	1.94	.05
PApClimate	.03	.03	.04	.91	.36
PAvClimate	-.01	.04	-.02	-.34	.73

Note. Block 1: R^2=.199, adjusted R^2 = .19, standard error= .70; block 2: R^2= .219, adjusted R^2= .204, standard error= .69; *p<.05, †p<.001

Table 4: Regression analysis predicting intentions to be physically active

	Unstandardized coefficients		Standardized coefficients		
	B	SE	Beta	t	p
Block 1					
MApGoal	-.02	.07	-.01	-.28	.78
MAvGoal	-.07	.05	-.01	-.14	.89
PApGoal	.01	.06	.01	.09	.93
PAvGoal	-.08	.06	-.08	-1.38	.17
CV	.78	.07	.56	11.93	.00†
PC	.12	.06	.08	1.85	.07
Block 2					
MApGoal	-.04	.07	-.03	-.53	.60
MAvGoal	.00	.05	.00	.07	.94
PApGoal	.01	.06	.01	.24	.81
PAvGoal	-.07	.06	-.07	-1.27	.21
CV	.78	.07	.56	11.91	.00†
PC	.12	.06	.09	1.96	.05*

MApClimate	-.03	.05	-.02	-.48	.63
MAvClimate	-.6	.05	-.05	-1.11	.27
PApClimate	-.05	.07	-.03	-.76	.45
PAvClimate	-.06	.08	-.04	-.78	.44

Note. Model 1: R^2=.353, adjusted R^2= .345, standard error= 1.37; model 2: R^2= .362, adjusted R^2= .35, standard error= 1.37. *p<.05, †p<.001

What was already known	The importance of goals and perceived climates on outcomes such as intentions. Studies have used the dichotomous view of motivational climates in the past.
What this study adds	This study is one of the first to utilize the 2x2 framework of perceived motivational climate. Since the achievement goals framework has adopted a 2x2 framework, it is important to consider that the climates may also be more complex than originally thought. In addition, this article starts to address the anxiety and physical activity relationship from a unique perspective. Robust evidence exists suggesting that participating in physical activity is beneficial for reducing anxiety, and since the prevalence of mental health issues are at an all-time high, examining how to get more people that suffer from a mental health issue to adhere to physical activity is paramount. This article details reasons that anxiety may exist in physical activity settings and provides some guidelines to promote environments in which individuals feel comfortable. Also, this article highlights the negative consequences of adopting mastery-avoidance goals compared to the other goal orientations. Previously, this finding has only been established in education.

DISCUSSION

This study's purpose was to evaluate interrelationships among AGT tenets (goal orientations and perceived climates), competence valuation, state anxiety, perceived competence, and intentions among college physical activity participants. Hypothesis one was moderately supported; perceiving a mastery-approach climate was slightly, negatively related to state anxiety and also predicted state anxiety in the regression analysis. Although hypothesized, perceiving a mastery-approach climate did not significantly predict intentions, but a small, negative relationship does exist between these constructs. Based on these findings, if a manager emphasizes tenets of a mastery-approach climate such as improvement for all individuals, then the individuals in the climate are less susceptible to experiencing symptoms of anxiety and will be more likely to persist in the activity. No previous study has utilized 2x2 motivational climate framework in understanding anxiety in physical activity settings, so this is a novel finding. However, comparable outcomes have been determined previously for mastery climates using the dichotomous approach of motivational climate [21-30].

Hypothesis two was also moderately supported; the avoidance framed goals were positively related, at a weak level, to state anxiety but did not significantly predict it. This relationship means that manager who emphasize not losing skill and avoiding normative incompetence may induce higher levels of state anxiety in the individuals. This is consistent with previous research regarding performance climates using the dichotomous framework of AGT [21-30]. Intentions were negatively related to both performance climates; therefore, managers should focus on feedback and learning for all individuals for attrition purposes.

In this study, goal orientations were more prominent predictors of state anxiety and intentions compared to climates. As established in previous research, the avoidance framed orientations exhibited more robust relationships with higher state anxiety than the approach goals [17-19]. Moreover, mastery-avoidance goals were discovered to be the most maladaptive orientation to embrace. Adopting mastery-avoidance goals may result in maladaptive behaviors such as self-handicapping; this is a consistent finding with Sideridis [19]. This goal orientation is so detrimental to behavior because of the emphasis on worry and personal incompetence. Sideridis [19]. also suggested that adopting mastery-avoidance goals is linked with low emotional regulation and can lead to higher levels of anxiety if the individual does not find success. The findings from this study also suggest that adopting performance-approach goals can be maladaptive. Adopting a performance-approach goal was negatively related with perceived competence and positively related with state anxiety. These goals may be detrimental to behavior since the focus is on uncontrollable, external criteria. For example, Law and colleagues [31]. argued that performance-approach goals may transition to performance-avoidance goals if negative feedback is given.

The strongest predictor of state anxiety was perceived competence; the stronger the perception of competence, the lower the anxiety was. This is similar to findings from Endler [4]. which suggested that experiencing anxiety can be attributed to a lack of confidence in one's abilities. Also, this conclusion is also apparent in relation to additional self-belief concepts such as self-efficacy [32]. and the mastery hypothesis that has been used to rationalize the anxiolytic effects of being physically active. Due to this finding, AGT can be a practical framework for describing how physical activity can reduce symptoms of anxiety. Furthermore, positive relationships existed between adopting mastery-approach goals and higher levels of perceived competence. This finding suggests that those who emphasize self-improvement are more likely to view themselves as competent; this is consistent with the principles of AGT [14-16].

However, there were limitations in this study. First off, most of the participants reported perceiving a mastery-approach climate, and therefore there was not much variation in the climates. Because of this, it is difficult to determine the effects of the other possible climates on intentions and state anxiety. Another limitation was a mostly female sample; however, this may actually be an advantage to this study since previous research has indicated that females often self-report more anxiety. The large sample size was also a limitation since the considerable size made statistical significance easier to attain. Nonetheless, other methods need to be employed to evaluate these constructs to better understand of how various climates impact state anxiety and intentions. In this study, physical activity was self-reported

and used as a categorical variable. Using dichotomous variables has previously been subject to critique [33]. and given the outcomes of this study, using a measure that results in a continuous variable to facilitate the investigation of physical activity level as a moderator in relationships related to state anxiety is necessary.

CONCLUSION

The purpose of this study was to examine AGT constructs, state anxiety, and intentions to be physically active. As expected, perceiving a mastery-approach climate led to the most adaptive motivational profile. These individuals who reported this climate exhibited the lowest levels of state anxiety, likely attributed to the importance of self-improvement in this environment. Goal orientations were a stronger influence than climate on the outcomes of interest. Of these goals, mastery-avoidance were associated with the higher state anxiety and lowest levels of intent to continue physical activity. These results suggest that teacher and coaches should promote an environment in which self-improvement is central to success and encourage their students and athletes to adopt self-referenced goals that are focused on individual mastery.

Conflicts of interest

None declared.

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