ORIGINAL

3X2 ACHIEVEMENT GOALS AND PSYCHOLOGICAL MEDIATORS IN PHYSICAL EDUCATION STUDENTS

METAS DE LOGRO 3X2 Y MEDIADORES PSICOLÓGICOS EN ESTUDIANTES DE EDUCACIÓN FÍSICA

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ABSTRACT

This research examines the relationship between 3x2 achievement goals, basic psychological needs, self-determined motivation, intention to be physically active, and satisfaction with life. The sample was comprised of 1706 Physical Education students with aged between 10 and 17 years old (M = 13.75; DT = 2.98). Descriptive analysis and linear regressions were performed. Validity and internal consistency were appropriate. The results pointed out the importance of competence and relationship satisfaction, self-determined motivation, and task-approach and other-approach goals in predicting the intention to be physically active, as well as task-based goals and satisfaction of the three basic psychological needs in predicting satisfaction with life. The 3x2 achievement goal

framework is a relevant contribution in explaining the motivational and welfare consequences of the students.

KEY WORD: 3x2 Achievement Goals; Psychological Mediators; Satisfaction with life; Intention of future practice; Physical Education.

RESUMEN

Esta investigación examina la relación entre las metas de logro 3x2, las necesidades psicológicas básicas, la motivación autodeterminada, la intención de ser físicamente activo y la satisfacción con la vida. Participaron en el estudio 1706 estudiantes de Educación Física de 10 a 17 años (*M* = 13.75; *DT* = 2.98). Se realizaron análisis descriptivos y regresiones lineales. La validez y la consistencia interna fueron apropiadas. Los resultados señalaron la importancia de la satisfacción de la competencia y la relación, la motivación autodeterminada, y las metas de aproximación-tarea y aproximación-otro en la predicción de la intención de ser físicamente activo, así como de las metas basadas en la tarea y la satisfacción de las tres necesidades psicológicas básicas en la predicción de la satisfacción con la vida. El marco de metas de logro 3x2 supone una contribución relevante en la explicación de las consecuencias motivacionales y del bienestar del alumnado.

PALABRAS CLAVE: Metas de logro 3x2; Mediadores Psicológicos; Satisfacción con la vida; Intención de práctica futura; Educación Física.

INTRODUCTION

One of the main challenges for Physical Education teachers is to structure teaching to increase student motivation during classes, since this increase will have direct repercussions on their involvement in physical-sports practice and adherence to it. To explain motivational processes, researchers have focused mostly on two theoretical frameworks: Achievement Goals Theory (Nicholls, 1989) and Self-Determination Theory (Deci & Ryan, 2000).

Achievement goals are defined as the reasons or purposes that direct people's behavior (Ames, 1992). This theory has evolved from its beginnings to the present, through four different models. In the first one, called the dichotomous model, the achievement goals were conceived as mastery goals and performance goals. In a subsequent evolution, the trichotomous model was developed, incorporating the valence of approach (focused on success and positive states), of avoidance (aimed to avoiding failure or moving away from the negative possibility of competition) in the goals of performance (Elliot & Church, 1997; Elliot, Gables, & Mapes, 2006). After another review of the theoretical framework, Elliot & McGregor (2001) established the 2x2 achievement goals model, and defined the achievement goal as the competence-based objective used to guide behavior (Elliot & Fryer, 2008). Crossing the definition of competencies (mastery and performance) with the valence of competence (approach and avoidance), they established four

achievement goals: mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance.

Recently there has been a latest evolution of the model in light of Elliot, Murayama, & Pekrun´s (2011) research. These authors theorized about the need to bifurcate mastery goals as well, into task-based and self-based goals. The resulting model was called 3x2, and it offers three standards for evaluating competence: task, self and other, which together with the valence of competence, provides six types of achievement goals: task-approach goal focused on the achievement of the task-based competency (e.g., "doing homework correctly"), task-avoidance goal focused on avoidance of task-based incompetence (e.g., "avoiding doing homework incorrectly"), self-approach goal focused on achievement self-based competence (e.g., "do better than before"), self-avoidance goal focused on avoidance of ego-based incompetence (e.g., "avoid doing worse than before"), other-approach goal focused on the achievement of competence other-based competence (e.g., "doing better than others"), and other-avoidance goal focused on the avoidance of other-based incompetence (e.g., "avoiding doing worse than others").

Additionally, students' motivation in Physical Education classes has been approached from the Self-Determination Theory (Deci & Ryan, 2002). This theory indicates that the level of motivation to perform an action is based on a continuum with different regulations levels. At the most self-determined level, intrinsic motivation, students perform the task out of interest and the inherent satisfaction that it produces. The next step is extrinsic motivation in which the reasons for carrying out the activity are external to it. Within this level there are different sublevels that from more self-determination to less materialize in identified regulation, introjected regulation and external regulation. In the identified regulation, the students carry out the practice because they know the importance of Physical Education and the benefits it brings. With regard to introjected regulation, students participate because they feel guilty or ashamed if they did not, while in external regulation students are involved in classes motivated by receiving rewards or avoiding punishment. On the rung of least self-determination is amotivation; from where the students do not understand the meaning of carry out the activity, and they often feel that they are wasting their time.

At the same time, this theory postulates that there are three, innate, universal, and psychological needs basic: competence, autonomy, and relatedness. Competence refers to the perception that a person has towards the own efficiency and the optimal results in a task. Autonomy refers to the feeling that students express towards the selection of the actions they consider most appropriate, and finally, and the relatedness reflects the need that the student experiences when having positive relationships with classmates and, therefore, feeling accepted and affiliated within the group to which it belongs. Several studies (Hein, Müür, & Koka, 2004; Fierro-Suero, Almagro, & Sáenz-López, 2019; Menéndez & Fernández-Río, 2017) have shown that the satisfaction of these three psychological mediators increases intrinsic motivation, a relevant aspect for the intention of being physically active, and in turn a key factor to achievement the desired adherence to physical-sport activity in adolescents.

Numerous investigations within the context of Physical Education (García-Romero, Méndez-Giménez, & Cecchini-Estrada, 2020; Méndez-Giménez, Fernández-Río, & Cecchini, 2012; Sánchez-Oliva, Leo, Sánchez-Miguel, Amado, & García-Calvo, 2013) examined the relationship between the two theoretical frameworks exposed, and concluded that the task-oriented climate is more likely to satisfy psychological mediators, which develops a more self-determined motivation among students and therefore promotes positive behaviors and attitudes towards practice. Likewise, Conroy, Kaye, & Coatsworth (2006) pointed out, in relation to the 2x2 model, that a mastery-approach goal is positively linked to the perception of competence, intrinsic motivation, a mastery climate and, negatively, to anxiety and amotivation. The performance-approach goal is related to positive variables such as the perception of a performance climate, perceived competence, and extrinsic motivation and, negatively, to anxiety and worry (Elliot & McGregor, 2001; Van Yperen, 2006). Finally, within the avoidance goals, the most adverse consequences are provided by the performance-avoidance goal, as it relates to negative aspects, such as amotivation and anxiety.

Given the few studies that use the recent theoretical framework of 3x2 achievement goals, the objectives of this research are two: (a) to examine the relationship between 3x2 achievement goals, basic psychological needs, SDI (Self-determined Index), satisfaction with the life and the intention to be physically active in the Physical Education subject, (b) to study the predictive power of the 3x2 achievement goals, basic psychological needs and the SDI on the intention to be physically active and satisfaction with life.

METHOD

PARTICIPANTS

The sample consisted of a total of 1706 students (53% men and 47% women) of Primary Education, Secondary Education and High School, with ages between 10 and 17 years (M = 13.75; SD = 2.98), belonging to nine educational schools in the north of Spain. 225 students came from 5th and 6th grade (Primary Education), 356 from 7th, 461 from 8th, 297 from 9th, 239 from 10th, and 128 from 11th grade.

INSTRUMENTS

3x2 achievement goals. The 3x2 Achievement Goals Questionnaire Physical Education (3x2 AGQ-PE) by Méndez-Giménez, Cecchini-Estrada, & Fernández-Río (2014) was used. It is about the validation into Spanish and the context of Physical Education of the questionnaire developed by Elliot et al. (2011). The items were preceded by the phrase: "In Physical Education classes my goal is ...". This instrument is made up of a total of 24 items grouped into six factors: task-approach (e.g. "... perform many exercises and skills correctly"), task-avoidance (e.g. "... avoid doing tasks wrong"), self-approach (e.g. "... perform exercises better than I usually do"), self-avoidance (e.g. "... avoid doing skills worse than I usually do"), other-approach (e.g. " ... outperform other

students in performing skills and tasks "), other- avoidance (e.g. "... avoid doing exercises and tasks worse than other students "). Cronbach's alphas from the study by Méndez-Giménez et al. (2014), ranged between .74 (task-avoidance) and .89 (other-approach). The participants indicated the degree of agreement with each of these statements, using a 5-point Likert scale, which ranges from 1 (not at all true for me) to 5 (totally true for me).

Motivational regulations. The Perceived Locus of Causality (PLOC; Goudas, Biddle, & Fox, 1994) scale was used, translated into Spanish and validated in the context of Physical Education by Moreno, González-Cutre, & Chillón (2009). This scale measures the different motivational factors established in the Self-Determination Theory (intrinsic motivation, identified regulation, introjected regulation, external regulation, and amotivation). The items were headed by the statement "In Physical Education classes ...". This instrument is made up of 20 items, four for each of the factors. These authors indicated the following Cronbach's alpha coefficients for each subscale of the study: .80 for intrinsic motivation, .80 for identified regulation, .67 for introjected regulation, .70 for external regulation and .74 for amotivation. Participants rated on a 7-point scale, from 1 "strongly disagree" to 7 "strongly agree". In this work, the self-determination index (SDI) calculated by the following formula was used: [(2 x Intrinsic Regulation) + Identified Regulation] - [(External Regulation + Introjected Regulation) / 2] - (2 x Amotivation).

Basic Psychological Needs Scale (BPNES). The version translated into Spanish and adapted to Physical Education (Moreno, González-Cutre, Chillón, & Parra, 2008) of the Basic Psychological Needs Scale in Exercise (Vlachopoulos & Michailidou, 2006) was used. This instrument consists of 12 items grouped into three factors: autonomy (e.g., "... I have the opportunity to choose how to perform the exercises"), competence (e.g., "... I feel that I have had a great progression with respect to the objective end that I have proposed ") and relatedness (e.g.," ... I interact in a very friendly way with other colleagues"). The items were headed by the statement "In Physical Education classes ...". This instrument was rated on a 5-point scale, where 1 "not at all true for me" and 5 "totally true for me". In the original scale, Cronbach's alpha coefficients reported values of .71 for autonomy, .69 for competence, and .84 for relatedness.

Satisfaction with life. The Questionnaire from Diener, Emmons, Larsen, & Griffin (1985) was used, validated into Spanish by Atienza, Pons, Balaguer, & García-Merita (2000), which assesses the global judgment that the person makes about the satisfaction of their own life. It consists of five items (e.g. "In most aspects of my life, it is how I want it to be"). Use a 5-point scale with (1) "Strongly disagree" and (5) "Strongly agree." The Atienza et al. (2000) scale obtained Cronbach's alpha values of .84.

Intention to be physically active. The adapted version of Hein et al. (2004) called Intention to be Physically Active was used. This instrument is made up of five items, preceded by the heading "Regarding your intention to practice some physical-sporting activity ...". The responses correspond to a Likert-type scale

that ranges from 1 "totally disagree" to 5 "totally agree". The original study measure indicated Cronbach's alpha scores of 0.74.

DATA ANALYSIS

First, descriptive analysis (mean and standard deviation), internal consistency analysis using Cronbach's alpha, and bivariate correlations were performed to verify the relationship and relevance of the different variables used in this study, through the SPSS 22.0 program. In addition, the predictive power of the 3x2 achievement goals, SDI and basic psychological needs on the intention to be physically active and satisfaction with life was verified, using two linear regression analysis (stepwise). The first one, used as a criterion variable the intention to be physically active and as predictor variables the basic psychological needs, the SDI, and the 3x2 achievement goals. The variables were introduced in the same order. While, in the second regression, satisfaction with life is used as a criterion variable, and basic psychological needs and 3x2 achievement goals as predictor variables.

PROCEDURE

At first, the principals of the schools were contacted to request their collaboration in this research and to request the informed consent of the participants' parents. Before distributing the questionnaires, we contacted with the Physical Education teachers to explain them the protocol they should follow to fill them out, both in paper format and online, through the Google Forms platform. Given the complexity of the instrument, it was decided that teachers would read the items in grades 5 and 6 of Primary Education, while in Secondary and High Education participants could covered them independently. The questionnaires were completed individually, in the ordinary or computer classroom, according to the chosen passing method. Student participation was voluntary and anonymous; the confidentiality of the answers was guaranteed. The time required to complete the questionnaire ranged from 15-20 minutes. In this research, the ethical procedure for data collection was respected, and previously the approval of the Ethics Committee of the University of Oviedo was obtained.

RESULTS

Descriptive statistics and bivariate correlation analysis

In the preliminary analysis, Cronbach's alphas values between .72 and .88 were obtained, which indicates their adequate internal consistency (Nunnally & Bernstein, 1994). Regarding the means, the variable relatedness obtained the highest value of the psychological mediators, while the task-approach and self-approach goals showed the highest scores within the achievement goals (Table 1).

Table 1. Descriptive statistics and reliability of the factors

	M	SD	α
1. Autonomy	3.35	.92	.78
2. Competence	3.82	.84	.78
3. Relatedness	4.00	.84	.84
4. SDI	5.47	5.84	.72
5. Task-approach	4.12	.78	.82
6. Task-avoidance	3.95	.93	.77
7. Self-approach	4.07	.80	.80
8. Self-avoidance	3.75	1.00	.79
9. Other-approach	3.20	1.15	.88
10. Other-avoidance	3.42	1.10	.83
11. Intention to be physically active	4.06	.92	.84
12. Satisfaction with life	3.81	.90	.84

Note: M = Mean; SD = Standard deviation: α = Cronbach alpha

In Table 2, it can be observed that practically all the variables correlate between them in a positive and significant way, with the exception of the other-approach goal with the SDI, which do so negatively. The values range from -.02 (between other-approach goal and the SDI) to .72 (between self-approach and task-approach goals). Regarding psychological mediators, the highest correlation corresponds to perceived competence and autonomy.

Table 2. Bivariate correlations between variables

	1	2	3	4	5	6	7	8	9	10	11
1. Autonomy											
2. Competence	.65**										
3. Relatedness	.51**	.60**									
4. SDI	.24**	.40**	.32**								
5. Task-approach	.44**	.61**	.46**	.39**							
6. Task-avoidance	.30**	.40**	.32**	.32**	.58**						
7. Self-approach	.43**	.55**	.43**	.36**	.72**	.53**					
8. Self-avoidance	.33**	.42**	.29**	.26**	.53**	.70**	.59**				
9. Other-approach	.32**	.39**	.22**	-.02	.34**	.18**	.33**	.30**			
10. Other-avoidance	.31**	.38**	.24**	.07**	.38**	.49**	.35**	.58**	.64**		
11. Inten. physically active	.42**	.63**	.48**	.37**	.50**	.31**	.43**	.31**	.34**	.29**	
12. Satisfaction with life	.40**	.44**	.46**	.18**	.37**	.29**	.31**	.25**	.20**	.20**	.36**

**p <.01

Linear regression analysis by stepwise

The analysis showed that the variance inflation factor (VIF) for the intention to be physically active varied between 1.20 and 2.74, and for satisfaction with life was between 1.62 and 2.70 (below the conventional cut off criterion of 10). The Durbin-Watson value for intention to be physically active is 1.98, and for satisfaction with life 1.80. In both cases, the values allow accepting the assumption of independence of errors, being acceptable values between 1 and 3. Finally, the tolerance values ranged between .37 and .83, which reveals that the assumption of non-multicollinearity is fulfilled.

The regression of the intention to be physically active with the three psychological mediators revealed that competence (β = .545; p = .000) and relatedness (β = .163; p = .000) were positive and significant predictors, while no happened the same with autonomy. In the second step, the SDI was added as a positive and statistically significant predictor variable (β = .125; p = .000). When introducing the 3x2 achievement goals, the data revealed that the task-approach (β = .155; p = .000) and other-approach goal (β = .129; p = .000) were positive and significant predictors of the study variable. The task-avoidance goal was a positive but not significant predictor, while self-approach, self-avoidance, and other-avoidance goals were negative and non-significant predictors of intention to be physically active. Each of the models that were introduced in the regression explained 41.3%, 42.5% and 45.3% of the variance, respectively (Table 3).

Table 3. Regression analysis coefficients

Model		Typified coefficients			Collinearity statistic	
		β	T	p	Tolerance	VIF
1	(Constant)		12.265	.000		
	Autonomy	-.021	-.861	.389	.556	1.798
	Competence	.545	20.262	.000	.478	2.090
	Relatedness	.163	6.878	.000	.613	1.631
2	(Constant)		13.463	.000		
	Autonomy	-.014	-.580	.562	.555	1.802
	Competence	.502	18.234	.000	.447	2.235
	Relatedness	.146	6.159	.000	.604	1.654
	SDI	.125	6.173	.000	.861	1.203
3	(Constante)		8.541	.000		
	Autonomy	-.034	-1.378	.168	.545	1.833
	Competence	.442	13.539	.000	.370	2.706
	Relatedness	.150	5.847	.000	.592	1.690
	SDI	.021	6.374	.000	.722	1.348
	Task-approach	.155	4.402	.000	.365	2.741
	Task-avoidance	.008	.305	.760	.412	2.430
	Self-approach	-.020	-.595	.552	.390	2.562
	Self-avoidance	-.013	-.471	.638	.375	2.665
	Other-approach	.129	6.240	.000	.486	2.058
	Other-avoidance	-.033	-1.387	.166	.390	2.565

a. Dependent variable: intention to be physically active

The second regression corresponds to satisfaction with life as a dependent variable. Again, in the first step, the three basic psychological needs were introduced, and the data revealed that both competence (β = .135; p = .000), as well as the relatedness (β = .173; p = .000) and autonomy (β = .289; p = .000) emerged as positive and significant predictors. By introducing the 3x2 achievement goals in a second step, the data revealed that the task-approach goal (β = .096; p = .005) and task-avoidance goal (β = .108; p = .001) were positive predictors and significant. The other-approach goal predicted, but not significantly, while the self-approach, self-avoidance, and other-avoidance goals were negative and non-significant predictors of the dependent variable. Each of the models that are introduced in the regression explained 26.3% and 27.7% of the variance of the variable satisfaction with life, respectively (Table 4).

Table 4. Regression analysis coefficients

Model		Typified coefficients			Collinearity statistic	
		β	T	P	Tolerance	VIF
1	(Constant)		14.056	.000		
	Autonomy	.135	4.845	.000	.556	1.798
	Competence	.173	5.761	.000	.479	2.090
	Relatedness	.289	10.882	.000	.614	1.629
2	(Constant)		9.724	.000		
	Autonomy	.129	4.631	.000	.546	1.830
	Competence	.115	3.447	.001	.384	2.605
	Relatedness	.274	10.234	.000	.595	1.681
	Task-approach	.096	2.817	.005	.369	2.707
	Task-avoidance	.107	3.341	.001	.415	2.408
	Self-approach	-.053	-1.620	.105	.393	2.545
	Self-avoidance	-.011	-.325	.745	.376	2.659
	Other-approach	.057	1.945	.052	.497	2.010
	Other-avoidance	-.048	-1.446	.148	.391	2.560

a. Dependent variable: Satisfaction with life

DISCUSSION

This research has been proposed, in the first place, to explore the relationship between 3x2 achievement goals, basic psychological needs, SDI, satisfaction with life and the intention to be physically active in the Physical Education context. On the descriptive level, the students gave the highest scores to the task-approach and self-approach goals. These results are consistent with those reported in previous studies in the school context (Méndez-Giménez, Cecchini-Estrada, Fernández-Río, Méndez-Alonso, & Prieto-Saborit, 2017), both in the subject of mathematics with Chinese students (Wu, 2012) and Physical Education (García-Romero et al., 2020; Méndez-Giménez, García-Romero, & Cecchini-Estrada, 2018). Physical Education students attach great importance to setting goals related to successfully coping with activities and tasks during lessons, but also highly value, benefit from comparing their personal competence with that of their peers. Regarding psychological mediators, adolescents emphasized the relatedness as the most relevant factor, results that coincide with those reported by Menéndez & Fernández-Río (2017). In this way, students give special importance to belonging to a group and feeling affiliated and integrated within it. Second, they also appreciate feeling competent in the assigned tasks and, to a lesser extent, possessing a certain degree of autonomy in PE.

The bivariate correlations between achievement goals were positive and moderate. These data are in line with the studies by Elliot et al. (2011), although the scores are lower than those reported by Méndez-Giménez et al. (2017), with the exception of the task-approach and other-approach goals that showed higher values in the present work. The high relationship between task-approach and self-approach goals stands out; as happened in the Johnson & Kestler study (2013) carried out in American schools. Despite the high correlation between both goals, it has been shown that they are separate constructs

conceptually, and previous research has reflected the need for this bifurcation by finding correlates with clearly different outcome variables, as noted by Elliot et al. (2011) in the school environment and Mascret, Elliot, & Cury (2015) in the sports context. Both studies reveal that the task-approach goal is related to numerous positive variables such as intrinsic motivation, perceived competence, and learning effectiveness, while the same relatedness patterns were not found in the self-approach goal, except for intrinsic motivation. Additionally, in the study by Diseth (2015) these two types of approach goals were related to satisfaction with life.

Regarding the correlations between the SDI and the achievement goals, the negative relatedness of the former with the other-approach goal stands out, although with practically null values, data coinciding with those of the study by Méndez-Giménez et al. (2017). The goals aimed at social comparison and the use of interpersonal evaluation referents are practically not related or it does so inversely with the more self-determined levels of motivational regulation, more linked to the inherent enjoyment of the practice of sports physical activity and to the satisfaction that this produces in participants and in opposition to the extrinsic motivation obtained by the comparison with the others. In sum, it is necessary to promote more self-determined motivation among students, which has been shown to be related to high levels of positive affect, self-esteem, fun, effort and adherence to physical-sporting practice (Vallerand, 2007).

The correlations of the psychological mediators showed a high relationship between autonomy and competence. Similar results were replicated in the study by Fierro-Suero et al. (2019). In addition, competence satisfaction has been related to other variables such as the task-approach and self-approach goals, as already occurred in the study by Cecchini, Méndez-Giménez and García-Romero (2019). Consistent with the postulates of Self-Determination Theory, the satisfaction of basic psychological needs would cause an increase in the more self-determined motivation (González-Cutre, Sicilia, & Águila, 2011), and this, in turn, would positively influence adherence future to physical practice and the adoption of healthy lifestyles. For this, the teacher must design learning tasks that allow students to make decisions and stimulate their ability to choose, influencing their own autonomy. Likewise, they must propose activities that are adjusted to the motor competence of the students, which together with the use of positive feedback could increase their perception of ability. Finally, the teacher should encourage cooperative activities among students to strengthen their interactions and personal relationships (Hein et al., 2004).

The second objective aims to examine, on the one hand, the predictive power of the basic psychological needs, the SDI and the 3x2 achievement goals on the intention of being physically active of the students. In the first step, competence and relatedness with others emerged as predictors. This idea is emphasized in the hierarchical model of Vallerand (2007). Additionally, SDI emerged as a predictor in the model. Students who participate in classes because of the satisfaction they produce feel strong intentions to participate in future physical activity, as corroborated in their studies by Hein et al. (2004) on Estonian students and Fernández-Ozcorta, Almagro, & Sáenz-López (2015) on university students. Finally, the task-approach and other-approach goals were also shown

as predictors, data concordant with those reported in the study by Cecchini et al. (2019). The results underscore the importance given by adolescent students to adopt approach goals aimed at success in the task and comparison with others in the subject itself, beyond the contributions of basic needs and self-determined motivation.

On the other hand, in relation to satisfaction with life, it stands out that the three mediators introduced in the first model predicted the dependent variable. These data are reported in the school context by Puente-Maxera, Méndez-Giménez, Martínez de Ojeda, & Liarte (2018). The results suggest that the satisfaction of these three needs influences the (positive) assessment that the students themselves make of their own lives. In the second step, the task-approach and task-avoidance goals were positive predictors of satisfaction with life. These results are partially convergent with those obtained in the reviewed literature (Diseth, 2015; Méndez-Giménez et al., 2017; Sanmartín, Miguel, & Navarro, 2017). On the one hand, the task-approach goal has been related to positive variables such as intrinsic interest and perceived competence (Mascret et al., 2015; Méndez-Giménez et al., 2014). On the other hand, the task-avoidance goal has regularly shown little influence on both positive and negative variables, Méndez-Giménez et al. (2014) found perceived competence to be a negative predictor, while David (2014) reported negative prediction with anxiety. These results feed the need for new research to determine the pattern of relationships between the task-avoidance goal with respect to the relevant motivational consequences of achievement.

CONCLUSION

This study yields interesting implications for Physical Education teachers. They focuses on the contributions of the adoption of certain achievement goals (from the 3x2 framework) to understand the results of relevant achievement motivations in connection with the postulates of the Self-Determination Theory. However, this work encountered some limitations that should be resolved in future studies. Basically, the cross-sectional design of the study does not allow to establish cause-effect relationships. Therefore, longitudinal designs are needed to more accurately understand the evolution of these relationships over time, as well as experimental designs to contrast these results and address causal relationships.

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