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**Original Article**

# (A)MOTIVATION IN PHYSICAL EDUCATION CLASSES AND SATISFACTION OF COMPETENCE, AUTONOMY AND RELATEDNESS

## A (DES)MOTIVAÇÃO NAS AULAS DE EDUCAÇÃO FÍSICA E A SATISFAÇÃO DAS NECESSIDADES DE COMPETÊNCIA, AUTONOMIA E VÍNCULOS SOCIAIS

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**RESUMO**
O desinteresse nas aulas de educação física tem sido percebido nos anos finais do ensino fundamental. Os estudos sobre motivação na disciplina na última década reportam estreita relação entre a satisfação das necessidades psicológicas básicas e a participação nas aulas. A pesquisa investigou os aspectos motivacionais que conduzem ao afastamento dos alunos nas aulas de educação física, no nono ano do ensino fundamental. A pesquisa adotou o método misto sequencial. A análise quantitativa foi de natureza descritiva e a qualitativa de natureza interpretativa. A amostra na fase extensiva foi composta de 85 alunos de nono ano da rede Municipal do Rio de Janeiro, dentre os quais foram selecionados seis alunos para a fase intensiva. Para a recolha de dados na fase quantitativa, recorreu-se ao Questionário de Necessidades Psicológicas Básicas, adaptado para a língua portuguesa; e na qualitativa uma entrevista, realizada sob a técnica do Círculo Hermenêutico Dialético. Os resultados indicam que a falta de habilidade (competência), falta de diversificação dos conteúdos (competência/autonomia) e a falta de oportunidades de participação na tomada de decisão no desenvolvimento da disciplina (autonomia) estão entre os principais motivos que levam os alunos ao desinteresse pelas aulas de educação física no final do ensino fundamental.
**Palavras-chave**: Motivação. Desinteresse. Educação física escolar. Autodeterminação. Necessidades psicológicas básicas.

**ABSTRACT**
A lack of interest in physical education classes has been observed in the final years of elementary school. Studies conducted in the last decade on motivation in the discipline report a close relationship between the satisfaction of basic psychological needs and increased participation in physical education classes. This study investigated the motivational aspects that underlie the withdrawal of ninth-grade students from physical education classes. The study adopted a sequential mixed method in which quantitative descriptive and qualitative interpretive analyses were performed. In the extensive phase, the sample was composed of 85 ninth-grade students from municipal schools in Rio de Janeiro; of these, six students were selected for the intensive phase. The Basic Psychological Needs Questionnaire, adapted to Portuguese, was used for quantitative analysis and interviews were held using the dialectic hermeneutic circle technique for qualitative analysis. The results indicate a lack of ability (competence), lack of content diversification (competence/autonomy), and lack of opportunities for participation in decisions-making during development of the discipline (autonomy) as the main reasons for students' disinterest in physical education classes at the end of elementary school.
**Keywords**: Motivation. Disinterest. School physical education. Self-determination. Basic psychological needs.

## Introduction

School physical education has accompanied the changes observed in schools over recent decades in a self-paced rhythm, either focusing on the constitution of its body of knowledge in an organized manner, or seeking to systematize what is believed to be this knowledge[1] and its legitimation as a compulsory curricular component in basic education.

The literature has shown a progressive increase in the lack of interest in physical education classes throughout basic education, with a predominance of the approach to this topic in middle school since, according to scientific evidence, that was the level in which the lack of interest was considerable, more evident and consistently observed in different types of reality[2-5]. International[6,7] and Brazilian studies[8] on the lack of interest of students in physical education classes during elementary school suggest that this phenomenon is occurring at an increasingly earlier age and in-depth analysis is necessary to understand, from the students'

perspective, the reasons, causes and arguments that justify their attitudes and behaviors in this discipline.

Contemporary research on the motivation in physical education classes has resorted to the self-determination theory (SDT) as the theoretical framework[9-11]. The SDT was developed by Deci and Ryan[12] who proposed the concept that an individual's motivation results exclusively from external stimuli and that the offer of rewards to an already motivated individual inhibits the development of intrinsic motivation. The logic is that psychological needs support motivational processes related to internal stimuli and thus allow to anticipate social contexts/circumstances and task conditions that enhance intrinsic motivation. "[...] *intrinsic motivation will be facilitated by conditions that conduce toward psychological need satisfaction, whereas undermining of intrinsic motivation will result when conditions tend to thwart need satisfaction*."[13:233]. Within this context, the SDT is characterized as a theory of human motivation and personality that emphasizes the importance of an individual's ability to self-regulate his/her behavior. It understands individuals to be responsible for their actions and relates self-determined behaviors to the propensity to participate in the most diverse human activities.

The SDT comprises four mini-theories: basic psychological needs (BPN) theory, cognitive evaluation theory, causality orientations theory, and organismic integration theory. In this study, we will focus on the BPN theory to support the investigation of elements that influence the participation and engagement of elementary school students in physical education classes. Studies conducted over the last decade focusing on motivation in physical education have reported a close relationship between satisfaction of BPN and increased intrinsic motivation and self-determined behaviors, which affect the participation and engagement in physical education classes[10,11]. From the perspective of the SDT, these needs must be met satisfactorily so that the individual develops and thrives[13]. The BPN include autonomy, competence, and relatedness. The concept of autonomy is associated with the perception of individuals of being responsible for their own behavior[13] and choice-making opportunities[11]. Autonomy represents the possibility of choice and volition over their activities and objectives, without external pressures or threats, through engagement in the decision-making process and the development of a sense of authorship over their actions[13]. The need for competence refers to the feeling of capacity for engagement[13] and participation in activities and execution of tasks[11]. It reflects the sense of efficacy and the desire to perform well what is proposed, aimed at achieving the goals and success[14]. Finally, relatedness is defined by the need to establish social relations[13] and to strengthen the individual's feeling of belongingness[11] in the community where he/she lives, i.e., perceiving acceptance through the establishment of good and significant social connections[14].

Intrinsic motivation provides conditions for individuals to engage in tasks that they consider interesting without necessarily depending on reinforcement or compensation. Based on the premise that intrinsic motivation is associated with learning, performance and well-being and considering the relationship between intrinsically motivated behavior and the satisfaction of human needs, this study aimed to investigate the lack of interest of students in physical education classes by analyzing the level of attention paid to their BPN, as studies associating the satisfaction of BPN with the contexts and conditions promoted in school physical education are scarce. The few recent studies show that experiences in physical education classes related to the choice-making opportunities of students (or lack thereof)[15,16], to the exclusivity or prevalence of certain curricular contents[17], and to the type of relationships established in class (gender relations, bullying, reactions to performance)[17] promote more or less self-determined behaviors of the student during class activities and

highlight the importance of considering the satisfaction of BPN for interpreting students' attitude in the discipline.

The aim of this study was to describe and compare the BPN satisfaction of students in the last year of elementary school, and to qualitatively analyze the causes attributed by the students to the behavior in school physical education. Investigating the perception of students regarding satisfaction of their BPN in physical education classes within the Brazilian context will contribute to broaden our understanding about reasons for students' disinterest in this school subject.

## Methods

A sequential mixed method employing quantitative and qualitative approaches was used in this study because the possible complementarity of the two approaches allows analysis of this complex phenomenon, "[...] in its more "ecological" and "concrete" aspects, focusing in depth on its more essential meanings"[18:247], in order to find answers to the research questions. Thus, the study was divided into two phases: first, a quantitative, descriptive, explanatory analysis was performed using the Basic Psychological Needs in Exercise Scale (BPNES)[19], translated and validated for Brazilian Portuguese[16]. The instrument comprises 12 items answered on a 5-point Likert-type scale (1 = I do not agree at all… 5 = I completely agree).

The second qualitative interpretive phase consisted of the application of an interview adapted to the dialectic hermeneutic circle technique[20], which is based on a dialogic and dynamic relationship between the researcher(s) and the subjects within a context determined by historical, sociocultural, political, economic, and educational circumstances. This approach consists of an interlocutory survey of social actors in which each subject has the opportunity to express his/her view of reality, as well as to explain his/her position regarding the manifestations of others through continuous and progressive syntheses (Figure 1). In practice, each interviewee has the opportunity to present his/her interpretation of reality and to position himself/herself in response to the manifestations of other subjects of the sample.

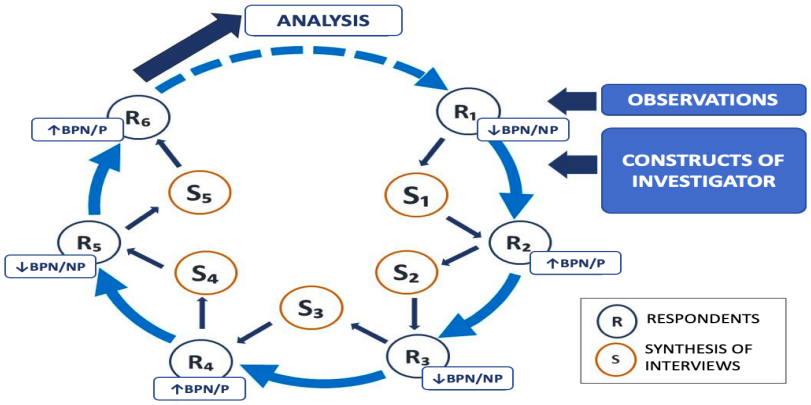


**Figure 1.** Adaptation of the dialectic hermeneutic circle
**Note:** ↑= high basic psychological needs (BPN); ↓= low BPN; P = participant; NP = non-participant
**Source:** The authors

Eighty-five ninth-grade students from three municipal schools in Rio de Janeiro participated in the first phase of the study, including 39 (45.9%) girls and 46 (54.1%) boys with a mean age of 15.0±0.75 years.

In the qualitative phase of the study, the sample selection process consisted of crossing

the data regarding the level of BPN satisfaction of the students and the teachers' ranking of students who participated at higher or lower frequency in the physical education classes (Table 1). Although this study analyzed the lack of interest in school physical education, the selection of the students participating in the classes was intentional considering that their contributions based on teaching-learning experiences would allow us to perceive regularities in the interactive-pedagogical processes during the development of the discipline. Thus, the sample was composed of three students with a high level of BPN satisfaction and high participation in the classes and three other students with a low level of BPN satisfaction and low participation in the classes, totaling six students.

**Table 1**. Selection process of the sample

| School | 9th-grade class | Participative students[1] | Non-participative students[1] | Quartiles of BPN scores[2] | Students with high BPN scores[3] | Students with low BPN scores[4] | Selected subjects[5] | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | P | NP |
| School 1 | Class 1 | 37;53;47 | 31;35;32 | ≥49.8/ ≤28.5 | 37;38;43;44;45 48;49;51;54 | 34;35;36;40;52; 56;59;62;65 | 37 | 35 |
| School 2 | Class 2 | 83;80;82 | 79;84;70 | ≥45.5/ ≤32.0 | 68;70;73;77;83 | 69;74;75;76;79;87 | 83 | 79 |
| School 3 | Class 3 | 139;142;150 | 136;144;149 | ≥48,5/ ≤28.8 | 139;146;148;154; 158;160;161 | 144;145;147;152; 155;162 | 139 | 144 |

**Note:** Numerical identification of the students in the order of presence in the database. 1: The teacher's indication preserved the order provided; 2: BPN scores in the upper and lower quartiles; 3: students in the upper quartile; 4: students in the lower quartile; 5: P = participants+high BPN satisfaction; NP = non-participants+low BPN satisfaction. BPN = basic psychological needs

**Source:** Data of the study

This procedure resulted in the coincidence that students with high BPN satisfaction scores and participation in the physical education classes were males ($R_2$, $R_4$ and $R_6$) and those with the lowest satisfactions scores and participation in the classes were females ($R_1$, $R_3$ and $R_5$).

The quantitative data were analyzed statistically by calculating frequency, mean and standard deviation in order to characterize the level of BPN satisfaction. The students' BPN satisfaction scores were compared according to sex using the Student *t*-test when the data were normally distributed and the nonparametric Mann-Whitney U test in the absence of a normal sample distribution. Differences were considered significant when $P \leq .05$. Statistical analysis was performed using the IBM® SPSS® Statistics software, version 20. The qualitative data were analyzed with the MaxQda software, licensed and distributed by Verbi© (Berlin), and submitted to content analysis[21] in order to look deeply into the causes and reasons reported by the students regarding the three dimensions of BPN in an attempt to obtain an explanation for their behaviors in physical education classes.

The study protocol was approved by the Research Ethics Committee of the Federal Rural University of Rio de Janeiro (COMEP-UFRRJ) (Approval No. 896/2017, Process 23083.006865/2017-69).

## Results

The overall mean score of the sample indicated moderate BPN satisfaction (3.2±0.89). The mean item scores were 3.2±1.19 for competence, 2.9±0.99 for autonomy, and 3.5±1.0 for relatedness. Interpretation of these results shows that the students felt moderately satisfied with their BPN in the physical education classes. The mean competence and relatedness scores were moderate to high and were higher than those obtained for the autonomy

dimension whose mean scores tended to range from moderate to low, demonstrating that the students felt less autonomous in the physical education classes.

Analysis of BPN according to sex showed that boys felt that their needs were better understood than those of girls: competence (3.7±1.11 *vs* 2.6±1.02), autonomy (3.2±0.99 *vs* 2.7±0.92), and relatedness (3.9±0.91 *vs* 3.0±0.92). Comparing these means, the differences were significant for all dimensions: competence (U=431,500; p<0.000), autonomy (t=641,500; p=0.024), and relatedness (U=457,000; p<0.001), with boys in ninth grade scoring higher than girls (Table 2).

**Table 2**. Comparison of the scores of basic psychological need satisfaction between male and female students

| BPN dimension | Male | Female | p value |
|---|---|---|---|
| Competence ($\bar{x}$±SD) | 3.7±1.11 | 2.6±1.02 | 0.000** |
| Autonomy ($\bar{x}$±SD) | 3.2±0.99 | 2.7±0.92 | 0.024* |
| Relatedness ($\bar{x}$±SD) | 3.9±0.91 | 3.0±0.92 | 0.000** |

**Note:** BPN: basic psychological needs; $\bar{x}$: mean; SD: standard deviation. * Significant p<0.05; ** significant p<0.001
**Source:** Data of the study

In the qualitative phase of the study, we analyzed the records of the students' speeches regarding the causes and reasons for abstention from physical education or even the lack of interest in participating in the classes considering the mediators of BPN (Table 3).

**Table 3**. Students' perspective of the causes of lack of participation in physical education classes

| Competence | Autonomy | Relatedness |
|---|---|---|
| $R_1$ *I'm very slow, very slow, I do not participate, even not in handball, the one with the hand, right? I do not participate because I find myself too slow. To do these sports you have to be fast, you have to be smart.* | $R_1$ [*if I were the teacher*] *I would try to talk to the students to see what they would like to do in class! I would make them feel comfortable in the physical education class.* | $R_1$ *When one is unable to do some activity, they tease him. Ah, they tease the colleague a lot always, tease a lot, talking a lot about the colleague. I think if my friends would participate more, I think I would want to participate yes.* |
| $R_2$ *Well, volleyball I did not like it much because I thought it was very difficult, I tried, look I tried, but it's just I did not pass the basics, could not develop.* | $R_2$ *Many students do not like the choice of the teacher, like everyone, all the boys want to play futsal, when the teacher kicks a basketball, many get annoyed and do not do anything, like when he puts handball, many get annoyed and do not do anything, you know?* | $R_2$ *The ability. It does not matter if the kid is cool as a person, if he's great as a person, if he's smart, if he's clever, he's going to be popular [if he's skillful].* |
| $R_3$ *I do not participate because I have problems doing these things, I cannot play ball, play volleyball. Today in physical education, I do not even try. In physical education I do not do anything because I do not know how to do anything.* | $R_3$ *Especially during the game you have quite a lot of opinion, but in class we also give opinion [...] there is a lot of student opinion. The teacher listens. Sometimes he listens, but sometimes the opinions are without notion.* | $R_3$ *I think if all my friends would participate, I would too!* |

*Continuing Table 3...*

| | | |
|---|---|---|
| $R_4$ *Ah, difficult because there are people who cannot play volleyball, soccer, these sports. I'm not very good at playing volleyball, no. Ah, there are some sports that I'm good at, some that I'm bad at, football I play more or less, handball I play well, volleyball I do not play very well, I do not know how to play it right.* | $R_4$ *I would introduce some exercise they like to do in physical education, you know? Like: what do you like to do? Oh, I like to dance. So dance class in physical education for girls and soccer for boys. I think I would change the classes, what they teach in physical education. I would try to give more opportunity to those who do not want to do anything, you know?* | $R_4$ *Ah, they are popular because they talk to everyone, they know how to play all sports well, so they are usually chosen to play.* |
| $R_5$ *I've never been good at dancing, so I guess I was going to do the class, but I did not think it was going to be any good, I was going to come and I was not going to learn anything.* | $R_5$ *I never saw the teacher asking or wanting to know about what they would like. I do not participate in the class, I just watch. I would change the uniform. The person can come with any shorts, because I just do not do physical education because I do not have blue shorts, the one that they ask for.* | $R_5$ *Who does not know how to play is teased. Then the others are teasing and the person does not do anything, gets ashamed. I think it's ridiculous to make fun of others because they are unable, they have difficulty.* |
| $R_6$ *I find them easy [the class activities] [...] In basketball, in basketball I am not... [skilled].* | $R_6$ *[the teacher could] intensify the warm-up a little that's missing Accompanying the physical education, not remaining sitting [...] It is up to me to pay attention in class.* | $R_6$ *One teases the other, joking [...] Amham! , but it's just joking. If there were less skilled students playing, I put one on each team. This is true ... she chooses the friends who sit next to her [...] _ The other friend: ah, choose that one.* |

**Note:** + motivated = $R_2$, $R_4$ and $R_6$; - motivated = $R_1$, $R_3$ and $R_5$
**Source:** Excerpts from student interviews

## Discussion

Basic psychological needs as a mini-theory of the SDT have been the subject mostly of international studies. In Brazil and among publications in Portuguese, there is a predominance of studies conducting transcultural validation/testing of the BPNES[16,22]. We found no articles in the national literature that addressed BPN satisfaction in the setting of school physical education during elementary school or in a sample of equivalent age. Therefore and because studies have shown a trend of transcultural validity of the theoretical principles of BPN[23], we used the parameters observed in international studies conducted primarily from the theoretical perspective of BPN and self-determination to value theoretical concomitance. Furthermore, in order to adapt the discussion of the results to the Brazilian context, we used studies that address concepts related to the motivational mediators of BPN[24,25]: competence, autonomy, and relatedness.

The scores of BPN satisfaction obtained by the students of this study were lower than those reported in international studies[23,26]. Studies conducted in China[23], the United Kingdom[23] and Spain[26] found mean scores ranging from 3.8±0.89 to 4.5±1.34 for competence, from 2.8±1.28 to 3.7±1.23 for autonomy, and from 3.8±1.10 to 4.1±1.03 for relatedness.

In a transcultural study[23], Chinese students exhibited greater satisfaction of autonomy (3.7±1.23), while British students were more satisfied with competence (4.4±1.34) and relatedness (4.1±1.36) needs, values higher than those found in this study. In addition, BPN satisfaction (mainly competence and relatedness) mediated the relationship between autonomy support and subjective vitality. Similarly, the student's effort was mediated by satisfaction of competence need and moderately by satisfaction of relatedness. The perception

of autonomy support was positively associated with all mediators of BPN. The results of the Spanish study[26] showed a higher level of BPN satisfaction, with scores of 3.8±0.89 for competence, 3.3±0.90 for autonomy, and 4.1±1.03 for relatedness. The initial premise that the mediators of BPN associated with the intrinsic motivation and social goals of the students predicted their perception of the learning effort was partially confirmed, considering that the satisfaction of competence and autonomy needs alone associated with social responsibility was able to predict the students' perception of effort. In both studies, the relationship of BPN with the perception of effort is explained exactly by the fact that the literature predicts greater engagement, which consequently increases the participation in activities and the sense of competence in the tasks.

Only one Brazilian study has compared BPN according to student sex[24]. The difference observed in the present study between boys and girls does not corroborate the findings of Costa et al.[24]. However, the age range of the subjects was not reported in that study. Other studies[25,27] based on the SDT found that boys were more self-determined than girls with respect to physical activity.

The qualitative analysis of the students' statements complements the quantitative analysis and allows us to understand the causes attributed by the students to the disinterest in and withdrawal from participation in physical education classes. It is plausible to affirm that the students' lack of competence for dominating the contents leads to the progressive consolidation of a negative attitude towards the activities and perhaps towards the discipline. The excerpts also permit reflection on previous experiences that did not result in the development of the skills and competences necessary for subsequent learning in the discipline. The feeling of incapacity and of acting short of the requirements generates negative emotional consequences based on the interpretation of the impossibility of success in the activities and lead to disengagement from physical education as the students do not believe it to be possible to learn and to be successful in the classes[28]. In this case, the competitive environment perceived by girls may have been restrictive to their participation in the classes, as they found their skills not to correspond to the requirements of the tasks and therefore removed themselves from participation to avoid ridiculization from peers. In this regard, the classroom climate must be the focus of the teachers' attention since the mastery motivational climate is positively associated with satisfaction with academic activity and negatively with the feeling of boredom in classes[29].

In the autonomy dimension, non-participating girls exhibited dissatisfaction with the physical education contents and felt that their needs were not addressed by the activities developed in the classes. They did not perceive opportunities for participation in the decision-making process and stated that it would be important for them to have the possibility of influencing how they are treated in the classroom and the choice of contents. Within this context, it was possible to observe the need, especially of girls, to suggest activities, providing opportunities for the participation of those who do not attend the class and even commenting on issues that are not related to the development of the discipline but rather to the norms and rules linked to the participation in physical education classes.

Students participating in the classes had a positive attitude towards the contents developed in the physical education classes, but recognized differences according to sex in which the predominance of a sport leads to the withdrawal of some students. Some excerpts demonstrated a selective attitude of these students towards specific contents, referring to the sport as the exclusive practice of soccer. Boys perceived greater opportunities for shared decision-making than girls but restricted to procedural contexts of the class, such as game situations in which they seek to meet individual interests or interests of small groups of the class. Thus, students' perception of teacher openness does not necessarily imply sharing teaching decisions, but contextualized dialogues in practical situations that denote the

receptive attitude of the teacher in order to favor interactions with the students and to establish a positive classroom climate.

Attitude represents a pre-command of behavior and needs to be considered in the selection of curriculum contents and development in the school subject. A less favorable attitude and the lack of affinity for certain physical education contents can be determinant for the disinterest of students in the classes[30]. The restricted experience with contents beyond team sports during the classes, as well as the frequent repetition of contents contribute to the gradual withdrawal of students from the discipline[5,8]. Contrarily, diversification broadens the possibility of meeting students' needs and thus to involve them in school tasks. An open attitude of teachers towards choosing contents through collaborative planning broadens communication channels with students, thus increasing their possibilities to express their interests and expectations in relation to the discipline, in addition to enhancing intrinsic motivation, self-determined behavior, predisposition to participate in activities, and a sense of responsibility for their school performance[15].

In the relatedness dimension, the practices and relationship between peers caused a reaction of non-participating students to criticism and mockery when they failed, situations that transmitted insecurity and consequently caused these students to withdraw from classes because of the embarrassment to which they were exposed. Among participating students, interdependence between competence and relatedness was evident, a condition in which the reports expressed a greater opportunity of socialization in physical education at school. This interdependence reinforces the perception of physical education as an environment favorable to the formation of social bonds when the students can predict their success, and is therefore more present among students participating in the classes. The perception of support from peers in physical activities is positively related to participation in the classes[31], while negative attitudes of peers, generating fights and individualism, are significant determinants of dissatisfaction and abstention from classes[32]. These aspects should therefore be considered in intervention programs for physical activity promotion inside and outside school.

## Conclusion

This study proposed to describe and compare the BPN satisfaction of boys and girls in the last year of elementary school, as well as to explore and identify the reasons reported by students to justify their behavior in school physical education. It is based on the empirical observation that the amotivation in physical education, widely demonstrated in the literature as a high school reality, is increasingly present at the end of elementary school.

The BPN satisfaction of ninth-grade students was found to be moderate for the competence and relatedness mediators and low for autonomy, levels lower than those reported in the international literature for students of similar age groups. The lack of national studies using this theoretical perspective of BPN limits possible inferences within the context of our educational system. Boys feel greater BPN satisfaction than girls for all motivational mediators, especially competence and relatedness. The repercussion of this result would indicate that male individuals have a greater predisposition to effort and engagement in educational activities. The qualitative results clearly reinforce the difficulties of girls in engaging in the activities proposed in the classes because they are mostly limited to traditional sports in which boys are culturally stimulated and have greater dominance.

The study allowed to confirm factors reported in the literature to be to a large extent responsible for students' lack of interest in physical education, particularly the fact that the less motivated/participative students were all females. Girls expressed a feeling of disadvantage regarding classroom content, participation in decision making and spaces for participation. The competitive environment inhibits and constrains their participation because

of the low sense of competence in sports content which, in this study, culminated in the almost exclusive participation in soccer, even when other classroom contents were developed. Even the most motivated/participative male students agreed that the exclusive practice of sports content drives away many students from the classes because it limits their chances of success and diminishes social relationships and peer collaboration, given the teasing when some are unable to perform well in the tasks.

The lack of content diversification and of opportunities for participation in curricular decisions (autonomy) are primary factors for mobilizing students to participate in physical education, for opening communication channels that allow the teacher to interpret students' interests and needs, and for triggering their sense of social responsibility and curricular development of the discipline.

To guarantee the development of competence in physical education classes, a curricular consensus in the discipline is necessary that minimally ensures the development of basic motor skills, especially in the early years of elementary education, fitting the curricular requirements of either the second phase of elementary school or high school. It is suggested to expand the students' experiences by diversifying course content, adjusting the levels of requirement to their skills and providing activities with a high chance of success in order to increase the perception of competence.

The adoption of collective planning is an alternative that considers the need for autonomy and that should always be attentive to the necessity of adapting the decision-making to the level of maturity of the students. To support the students' autonomy, the teacher needs to provide an environment in which they feel as co-authors of the decisions in different classroom situations.

This study did not control the dynamics of planning, classroom management or learning assessment in physical education classes since the aim was to exclusively address the perspective of students. Further studies conducted in school physical education settings that investigate the dynamics of the selection, systematization and pedagogical approach to contents are needed in order to analyze the coherence between the instructional environment and the students' perceptions of meeting their basic needs in the discipline. The BPN within the SDT have proved to be a useful theoretical framework for understanding students' attitudes and behaviors in school physical education, as their dimensions reflect aspects inherent to the teaching-learning context.

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