

## THE RELATIONSHIP BETWEEN THE **DECISION-MAKING PROCESS AND ACHIEVEMENT MOTIVATION AMONG THE HIGH SCHOOL STUDENTS INVOLVED IN TEAM BUILDING ACTIVITIES WITHIN PHYSICAL EDUCATION AND SPORT CLASSES**

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**ABSTRACT.** *Introduction:* The integration of team building activities into Physical Education and Sports classes represents an essential tool for the socioemotional and motivational development of young people within the school environment. *Objective:* The objective of this research study was to analyse the relationship between emotion-based decision-making and achievement motivation among high schoolers participating in team building activities integrated into Physical Education and Sports classes. *Material and Methods:* The study involved 50 high school students, both female and male. By administering two questionnaires from the field of *personality* assessment ("Emotion-Based Decision-Making" and "Achievement Motivation"), meant to analyse emotion-based decision-making and achievement motivation, we evaluated the relationship between these two dimensions. To obtain the representation of the association between them, we used Pearson's correlation coefficient. We performed data processing and statistical analysis using SPSS software, version 20. *Results:* We found a significant positive correlation between emotion-based decision-making and achievement motivation among students ( $r = 0.453$ ,  $DF = 48$ ,  $p < 0.001$ ). Our findings indicate that students participating in team building activities during School Physical Education classes display a decision-making process influenced by emotional factors and prove a strong desire for achievement. This aspect highlights a correlation between the emotional side of decision-making and individual motivation. Consequently, a higher degree of emotional involvement in decision-making correlates with increased individual motivation for achievement and personal satisfaction. *Discussion:* To underscore similarities and differences, the findings

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of this research study were compared with data from the literature addressing the relationship between emotions and the educational process in school physical activities, as reported, for instance, in the study titled "*Emotions–Decision-Making in Sport: Theoretical Conceptualization and Experimental Evidence*" published by Gershon Tenenbaum, Itay Basevitch, Lael Gershgoren, and Edson Filho in 2013. *Conclusions:* The research study has demonstrated that team building activities play an essential role in developing the socio-emotional competencies of high school students, thus allowing a better management of emotions in the decision-making process and supporting their motivation for achievement.

**Keywords:** decision-making process; achievement motivation; high school; team building; personality.

## INTRODUCTION

In daily life, the term *motivation* is often used to explain why a person acts in a certain way. Motivation represents the underlying force that drives human behaviour. Whenever a need arises, it generates a reason which, in turn, directs an individual's behaviour towards attaining a specific goal. A person strives to reach that goal in order to preserve their internal balance or homeostasis (Harackiewicz et al., 1997). Achievement motivation reflects the individual's desire to excel in a specific task or activity. It is an acquired tendency that can be significantly cultivated and consolidated through adequate interventions (Baloria, 2018).

Achievement motivation was extensively studied by David Clarence McClelland, an American psychologist renowned for his contributions to the field of motivational psychology. This form of motivation can highly influence the way a person approaches assigned tasks, thereby increasing the desire to become competent and effective (Harackiewicz et al., 1997). Achievement motivation represents one of the most intensely analysed topics in current research conducted in the field. As previously mentioned, cultivating this form of motivation from the first years of school is essential because it represents an acquired tendency that can be developed and reinforced through early educational experiences. In this respect, Brier (2006) describes a series of activities meant to stimulate achievement motivation among students (Brier, 2006). Numerous studies have highlighted that a high level of performance motivation has a positive impact on academic performance, personal efficacy, and subjective well-being in general. Spinath, Spinath, Harlaar, and Plomin (2006) state in their study that performance motivation constitutes a prerequisite for success in both the academic field and sports and professional contexts (Spinath et al., 2006).

### ***Team building activities***

Team building has been defined as a method for a group to increase its efficiency, respond to the needs of its members, or improve working conditions (Brawley & Paskevich, 1997). According to the writings of Carron and collaborators (Carron & Spink, 1993; Carron, Spink & Prapavessis, 1997), team building interventions have focused on improving group cohesion. Specifically, cohesion refers to the extent to which the members of a group are united in accomplishing instrumental tasks and/or social activities (Carron, Brawley & Widmeyer, 1998).

A central principle in designing team building interventions meant to consolidate cohesion is that when team members manage to build a sense of unity or belonging, that sense acts as a catalyst for individual motivation. Thus, it directs the members' efforts towards achieving common objectives and improving collective performance (Carron et al., 1985; Carron, 1997; Martin, Carron, & Burke, 2009; Beauchamp, McEwan, & Waldhauser, 2017).

### ***The decision-making process and its relationship with achievement motivation in the context of team building activities***

Participation in school sports activities involves cooperation and efficient coordination (Carron, 2002) among several members over an extended period. The performance of a team depends on the individual proficiency of the students, their capacity to collaborate (Stevens & Bloom, 2003), and their ability to make rapid and effective decisions in dynamic contexts and show a genuine desire for achievement. In this regard, team building activities have been acknowledged as effective strategies for optimising team functioning, thus fostering cohesion, collective motivation, and decision-making processes (Martin, Carron & Burke, 2009).

Team building, through its structured activities, provides a favourable framework to cultivate the spirit of collaboration, clarify team roles, and stimulate achievement motivation among its members. Participation in such programs can improve students' ability to communicate effectively, make decisions under pressure, and adjust their personal objectives to those of the group. Therefore, team building becomes not only a tool to build cohesion, but also a means through which achievement motivation and the decision-making process can be consolidated in order to attain collective performance.

The analysis of the relationship between achievement motivation, decision-making, and team building interventions in school sports activities provides deeper insight into the way in which individual motivational dynamics integrate into the mechanisms of a group. This perspective offers a solid foundation for the investigation of the psychological factors involved in the efficiency and success of teams in the world of sports (Kwon, 2024).

### ***The objectives of this research study***

This study *aims* to analyse the relationship between the emotion-based decision-making process and achievement motivation among high school students who participate in team building activities integrated within Physical Education and Sports classes. Moreover, based on our findings, we envisage developing and proposing a set of team building activities designed to enhance decision-making skills and achievement motivation, thus providing teachers with a series of applicable methods for Physical Education and Sports classes.

To achieve this *objective*, the study was structured into two complementary phases. The first phase was dedicated to evaluating and observing the students' decision-making behaviour in the context of attending team building activities integrated into Physical Education and Sports classes. Our goal for this phase was to point out how emotions influence decision-making. The second phase assessed the relationship between achievement motivation and the decision-making process by analysing the participants' behaviour and performance during group activities. In addition, we measured the relevant motivational and emotional indicators and further investigated these relationships using statistical correlations.

Through this approach, the research aims to underline the connections between personal motivation, emotion management, and decision-making processes in educational and sports contexts. Thus, we want to offer a deep understanding of the factors that influence students' performance and engagement in team building activities.

## **MATERIAL AND METHODS**

The *purpose* of the study was to analyse the relationship between the emotion-based decision-making process and achievement motivation among high school students participating in team building activities integrated into Physical Education and Sports classes. The objective of our study relies on several aspects. The literature (Miller & Byrnes, 2001) suggests that self-regulation and social values play a significant role in the decision-making process of adolescents, thus influencing their behaviours in social contexts. In this respect, we can effectively assess the relationship between the decision-making process and achievement motivation by collecting data directly from the participants in specific contexts of group activities, such as team building activities. Hence, we can observe and evaluate the interactions and the way in which emotions and motivation influence decision-making.

Secondly, few studies thus far have examined this relationship among high school students involved in team building activities. Therefore, this research aims to highlight the correlation between the two constructs and propose exercises applicable in Physical Education and Sports classes.

Thirdly, the evaluation of the decision-making process and of achievement motivation among high school students can be influenced by the specific context of team building activities. In addition, cultural and social factors (i.e., group norms and personal values) play an essential role in how teenagers make decisions and show their motivation for achievement. The literature supports this perspective: the motivational decision-making model proposed by Wentzel (2021) integrates beliefs related to competence and task values to explain students' behaviour within group activities; the systematic review conducted by Wang, Guo, and Degol (2019) highlights the cultural differences and the impact of sociocultural factors on motivation and academic performance. From the same standpoint, Kim's study (2015) reports how the specific context influences adolescents' achievement goal orientations. Based on this evidence, adding elements that reflect group dynamics and students' values can improve the validity of observations and enable more effective team building activities that stimulate both decision-making skills and achievement motivation.

Bases on the findings within our study, we aim to design and propose a range of team building activities promoting both decision-making skills and achievement motivation, thus providing teachers with a set of applicable methods within Physical Education and Sports classes.

Our *hypothesis* relied on the idea that the relationship between the decision-making process and achievement motivation among high school students is influenced by the specific context of team building activities. We assumed that cultural and social factors, such as group norms and personal values, play a significant role in decision-making and motivation display, according to the study carried out by Kim (2015), the review by Wang, Guo, and Degol (2019), and the motivational decision-making model of Wentzel (2021). This hypothesis aligns with the objective of the study: to analyse how group dynamics influence decision-making behaviour and achievement motivation, in order to propose an effective set of team-building activities adapted for students.

### ***Participants***

To ensure a balanced gender and age representation, we used a sample comprising 50 high school students, including both female and male participants, involved in team building activities conducted during Physical Education and Sports classes. A structured questionnaire was applied to collect data regarding the participants' decision-making process and achievement motivation.

From an initial sample of 200 participants, only 50 fully completed the questionnaire; they represented the final sample of the study.

The characteristics of the participants were as follows:

- *Age* (N = 50): 15–17 years old, with a mean of 16.52 and a *standard deviation* of 0.838.

- *Gender*: 27 girls (54%) and 23 boys (46%).

- *Level of engagement in team building activities*: all participants took part in at least one activity during Physical Education and Sports classes.

- Instruments applied: questionnaires within the “personality” field regarding the decision-making process - “*Emotion-Based Decision-Making*” and achievement motivation – “*Achievement Motivation*.”

The level of involvement in *team building* activities was assessed through self-reporting, and all participants completed questionnaires on the decision-making process and on achievement motivation. We found considerable diversity within the sample regarding the classes and their level of experience in group activities.

### ***Measuring***

Two questionnaires within the “personality” field were applied - *Emotion-Based Decision-Making* and *Achievement-Seeking* - to evaluate emotional decision-making and achievement motivation. Firstly, we used the *Emotion-Based Decision-Making* scale, part of the *Personality* domain (IPIP) and the subdomain titled *Seven Components Potentially Related to Emotional Intelligence* (Barchard, 2001). The scale contains nine items and measures decision-making autonomy (i.e., an individual’s likelihood to make independent decisions). It was translated and adapted into Romanian by Dragoș Iliescu (cultural adaptation level 2), based on the *International Personality Item Pool* (Goldberg et al., 2006; Iliescu et al., 2015).

Among the nine items, four measured the student’s tendency to make decisions based on affective (emotional) factors, three assessed the propensity to be guided by intuition, inspiration, and creativity, and two evaluated the likelihood of relying on rational thinking and objective analysis in making important decisions.

Furthermore, we included the main factors within the *Achievement-Seeking* scale, part of *Tellegen’s Multidimensional Personality Questionnaire (MPQ)*, from the ResearchCentral.ro database. This scale measures achievement motivation, namely the student’s tendency to set personal goals and make sustained efforts to attain them. The scale comprises ten items and was translated and adapted into Romanian by Dragoș Iliescu (cultural adaptation level 2), based on the *International Personality Item Pool* (Goldberg et al., 2006; Iliescu, Popa & Dimache, 2015; Lang et al., 2006).

Among the ten items in the questionnaire, two measure the students’ tendency to make additional efforts to achieve their goals, highlighting achievement motivation and responsibility. Two items measure the tendency to be persistent and responsible in completing tasks. One item measures the tendency to be

active, involved, and motivated to use leisure time for personal achievements or development, reflecting performance motivation and organisational skills. One item measures the tendency to make only minimal efforts to achieve one's goals, indicating a pragmatic or efficiency-oriented motivational style. Two items measure the tendency to show moments of lacking initiative or motivation, reflecting passivity or relaxation. One item measures the likelihood of postponing or avoiding the initiation of activities, thus highlighting difficulties in self-regulating effort. Another item measures the tendency to depend on external incentives to begin activities, therefore indicating a low self-motivation level.

The items were formulated in language accessible to students and evaluated on a six-point Likert scale (from 1 - "Strongly disagree" to 6 - "Strongly agree").

To represent the relationship between the two dimensions, we used Pearson's correlation coefficient. Data processing and statistical analysis were carried out using the SPSS software, version 20.

### ***Procedure***

The study was conducted in schools among high school students, with approval obtained from the school administration and the Physical Education and Sports teachers. The potential participants were informed about the purpose of the research, which was to investigate the relationship between the decision-making process and achievement motivation among high school students involved in team building activities during Physical Education and Sports classes. They were also informed about the confidentiality of their answers. The students were asked to provide informed consent for participation, and in the case of underage participants, parental consent was also obtained. Before completing the scale, the participants attended a team building activity program conducted during Physical Education and Sports classes. The average time necessary to fill out the scale was approximately 30 minutes. At the end, the students completed a demographic questionnaire, which included information regarding age, gender, previous involvement in team building activities, and their general level of participation in Physical Education and Sports classes.

## **RESULTS**

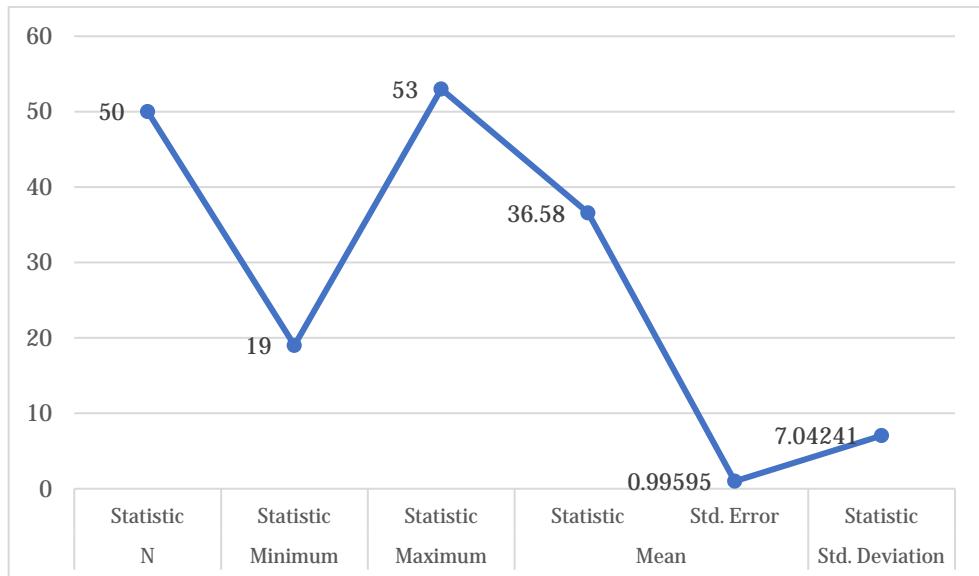
### ***Descriptive statistics***

To provide a general overview of the scores obtained, we calculated the mean, standard deviation, minimum, and maximum values for each variable: *emotion-based decision-making* and *achievement motivation*. This analysis enabled us to point out the central level and the variability of the scores within the sample.

**Table 1.** Descriptive statistics of the scores for the study variables  
*Emotion-based decision-making*

Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
<b>LD_TOTAL</b>	50	19.00	53.00	36.5800	.99595	7.04241
<b>Valid N (listwise)</b>	50					

The results regarding *emotion-based decision-making* showed that, from a sample of 50 participants, the scores ranged between 19 and 53, with an *arithmetic mean* of 36.58 and a *standard error* of 7.04. The *standard error of the mean* was 0.996, indicating a precise estimation of the mean value for the entire sample.



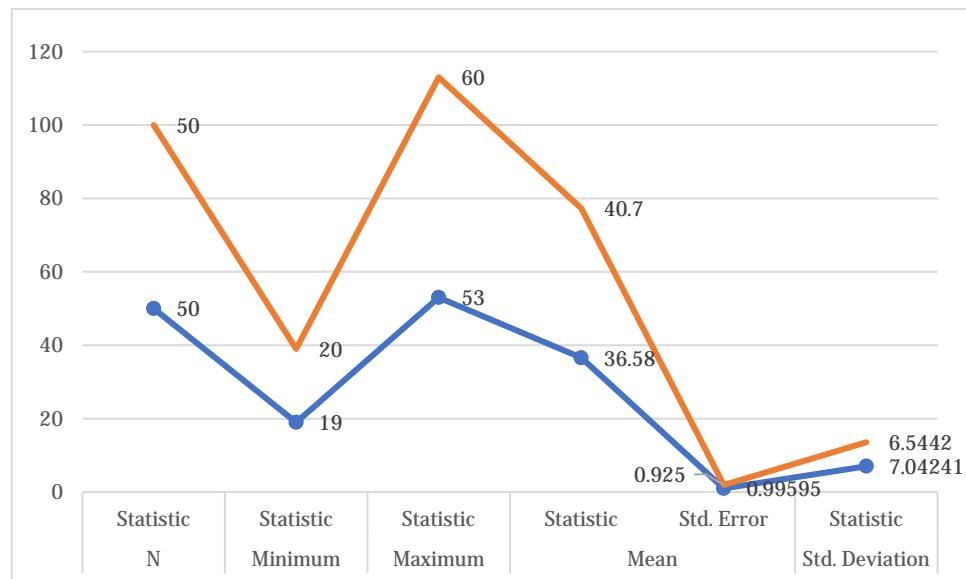
**Fig. 1.** Descriptive statistics of the scores for the study variables  
*Emotion-based decision-making*

**Table 2.** Descriptive statistics of the scores for the study variables  
*Achievement motivation*

**Descriptive Statistics**

	<b>N</b> <b>Statistic</b>	<b>Minimum</b> <b>Statistic</b>	<b>Maximum</b> <b>Statistic</b>	<b>Mean</b> <b>Statistic</b>	<b>Std. Error</b>	<b>Std. Deviation</b> <b>Statistic</b>
<b>LD_TOTAL</b>	50	20.00	60.00	40.7000	.92549	6.54420
<b>Valid N (listwise)</b>	50					

The results regarding *achievement motivation* showed that, from a sample of 50 participants, the values ranged between 20 and 60, with an *arithmetic mean* of 40.70 and a *standard error* of 7.54. The *standard error of the mean* was 0.925, which shows an accurate estimation of the mean value regarding the entire sample.

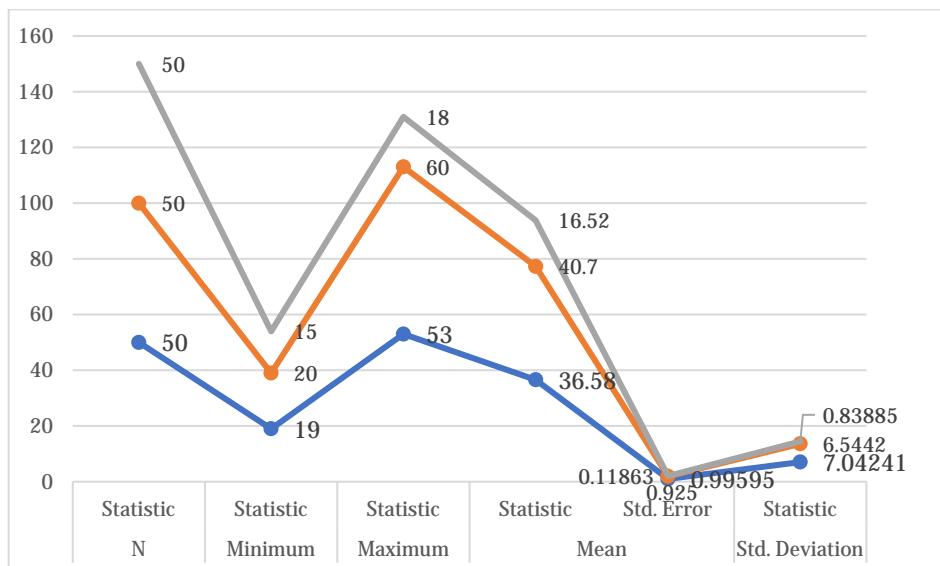


**Fig. 2.** Descriptive statistics of the scores for the study variables  
*Achievement motivation*

**Table 3.** Descriptive statistics on the age of the participants**Descriptive Statistics**

	<b>N</b> <b>Statistic</b>	<b>Minimum</b> <b>Statistic</b>	<b>Maximum</b> <b>Statistic</b>	<b>Mean</b> <b>Statistic</b>	<b>Std. Error</b>	<b>Std. Deviation</b> <b>Statistic</b>
<b>AGE</b>	50	15.00	18.00	16.5200	.11863	.83885
<b>Valid N (listwise)</b>	50					

The age of the participants ( $N = 50$ ) ranged from 15 to 18 years, with a mean of 16.52 years and a standard error of 0.84, indicating a relatively homogeneous age distribution within the sample.

**Fig 3.** Descriptive statistics on the age of the participants

### ***The correlation between emotion-based decision-making and achievement motivation***

To investigate the relationship between *emotion-based decision-making* and *achievement motivation*, we calculated Pearson's correlation coefficient. This analysis enabled us to evaluate the degree and direction of the association between emotional involvement in the decision-making process and individual motivation for achievement among students attending team building activities during Physical Education and Sports classes.

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**Table 4.** The correlation between emotion-based decision-making and achievement motivation

**Correlations**

		<b>LD_TOTAL</b>	<b>DR_TOTAL</b>
<b>LD_TOTAL</b>	Pearson Correlation	1	.453**
	Sig. (2-tailed)		.001
	N	50	50
<b>DR_TOTAL</b>	Pearson Correlation	.453**	1
	Sig. (2-tailed)	.001	
	N	50	50

\*\*. Correlation is significant at the 0.01 level (2-tailed).

We used Pearson's correlation coefficient to investigate the relationship between *emotion-based decision-making* and *achievement motivation*. The analysis highlighted a significant positive correlation between the two variables ( $r = 0.453$ ,  $DF = 48$ ,  $p < 0.001$ ), indicating that the greater the degree of emotional involvement displayed by students in the decision-making process, the higher their motivation for personal accomplishments.

This finding suggests a close connection between the emotional components of the decision-making process and individual motivation. It stands to show that students who make decisions influenced by feelings and intuition are more likely to reach their set goals and actively engage in activities for their personal development.

In the context of team building activities carried out during Physical Education classes, these correlations show that emotional involvement can be a facilitating factor for achievement motivation, highlighting the importance of interactive and collaborative experiences in stimulating both decision-making and the personal performance of students.

## **DISCUSSIONS**

To interpret our findings, we compared them with data in the literature on the correlation between emotions and the educational process in school physical activities. The results of this study are consistent with the findings of Tenenbaum et al. (2013), who highlight the central role of emotions in decision-making in sports contexts, with an impact on both the quality and the speed of decisions. Hence, students who make decisions guided by emotional factors display a stronger desire for achievement, emphasising the importance of emotional components in individual motivation.

In alignment with the studies of Lane and Terry (2000), which show that positive emotions increase motivation and performance in physical activities, our findings suggest that emotional involvement in decision-making can enhance students' motivation, especially within team building activities designed to provide interactive and stimulating contexts. In addition, the findings are consistent with the various research conducted by Carron et al. (2005), which reports that interaction and peer support in team activities improve emotional involvement and achievement motivation. This suggests that collaborative experiences help to consolidate students' motivation and engagement.

Moreover, the studies conducted by Gucciardi et al. (2011) indicate that emotional intelligence and self-regulation capacity influence success and engagement in various physical activities. The significant correlation found in our study between *emotion-based decision-making* and *achievement motivation* suggests that developing socio-emotional skills can be a determining factor in better academic performance and higher motivation among students during Physical Education and Sports classes.

## **SUMMARY AND CONCLUSIONS**

Based on the initially formulated hypothesis and the findings obtained, we detailed several relevant conclusions regarding the relationship between the *decision-making process* and *achievement motivation* among high school students attending team building activities during Physical Education and Sports classes. These conclusions pinpoint how emotional factors influence individual motivation and the importance of an interactive educational context in promoting achievement motivation.

Data analysis underlined a *significant positive correlation* between emotion-based decision-making and achievement motivation among students ( $r = 0.453$ ,  $DF = 48$ ,  $p < 0.001$ ), which indicates that a higher degree of emotional involvement in the decision-making process leads to an increase in their motivation to reach personal goals. This association suggests that emotional factors not only influence how students make decisions but also play a major role in stimulating achievement motivation and commitment to various educational activities.

Students who make decisions influenced by emotional factors show a stronger desire for achievement, which suggests that emotional involvement plays an essential role in individual motivation. This correlation highlights that, in the context of team building activities carried out during Physical Education classes, emotional factors not only model the decision-making process but also help to stimulate students' desire to reach their personal goals and actively engage in diverse educational experiences.

Our findings show that attending team building activities during Physical Education and Sports classes promotes both emotional involvement in the decision-making process and the students' motivation to achieve their goals. These data clearly prove the importance of an interactive educational context, where practical and collaborative experiences directly contribute to the development of socio-emotional skills and to the reinforcement of achievement motivation.

The results indicate that a higher degree of emotional involvement in decision-making is directly associated with increased motivation to attain personal goals and a higher level of personal satisfaction. In turn, it proves that emotions represent a facilitating factor in enhancing achievement motivation.

Our findings demonstrate that Physical Education and Sports teachers, along with school management, can integrate activities that encourage emotional reflection and decision-making, directly contributing to the consolidation of students' motivation and engagement within the educational process.

Finally, these findings suggest that future research should also investigate other variables that may influence the relationship between emotions and achievement motivation, such as personality traits, previous successful experiences, or the level of self-regulation. The goal is to get a better insight into the psychological mechanisms involved in these processes.

## **AUTHOR CONTRIBUTIONS**

Conceptualisation, T.A.R., A.B.A., and D.M.I.; Methodology, T.A.R., A.B.A., and D.M.I.; Software, T.A.R. and A.B.A.; Validation, T.A.R., A.B.A., and D.M.I.; Formal Analysis, T.A.R. and D.M.I.; Investigation, T.A.R. and D.M.I.; Resources, D.M.I., A.B.A., and T.A.R.; Data Curation, D.M.I. and T.A.R.; Writing - Original Draft, T.A.R. and A.B.A.; Writing - Review and Editing, T.A.R. and A.B.A.; Visualisation, T.A.R. and D.M.I.; Supervision, T.A.R. and D.M.I.; Project Administration, T.A.R., A.B.A., and D.M.I. All authors have equal contributions. Each author contributed equally. All authors have read the final version of the manuscript and approved it for publication.

## **CONFLICT OF INTEREST**

The authors did not identify any conflicts of interest.

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