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Motivation to practice sports in a school context: Relationship to the satisfaction of basic psychological needs

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Abstract: The purpose of this study is to: determine the profile and nature of students' motivation to practice PSA in school settings, and thus estimate the level of satisfaction of basic psychological needs; and finally, to study the nature of the relationship between motivation for sport and the level of satisfaction of basic psychological needs. The data was collected using Sport Motivation Scale (SMS) (Vallerand & Pelletier) and Basic Psychological Needs Scale (BPNS) (Gagné. M) from 146 grade 16- to 20-year-old students. The results obtained in this study show that the nature of the motivation to practice sports in schools is intrinsic and characterized by a high level of self-determination. The correlation between motivation to play sports and satisfaction of basic psychological needs is positive and significant (R=0.61)

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Keywords: motivation; basic psychological needs; PES

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1. INTRODUCTION

Physical education and sport is a difficult discipline to teach because it requires a deep reflection in terms of disciplinary content, but also in terms of implementation. This discipline is sometimes relegated to the background under the pretext that it is not a fundamental discipline in the same way as language or mathematics. While it is a discipline with whole share which requires a great importance, of this fact one wished to treat this disciplinary field.

Self-determination theory adopts the concept of self-actualization as a criterion for existence and well-being. It maintains that humans have basic psychological needs and that their satisfaction is essential to their growth, integrity and well-being. When these needs are met, the organism experiences vitality (Deci and Rayan, 2002), internal congruence (Sarazin et all 2001) and psychological integration (Deci and Ryan, 1991). The satisfaction of these needs is thus seen as a natural goal of life. This model seeks to explain the motivational motives that drive an individual to engage or not engage in an activity as an active agent who continually seeks to progress and satisfy his or her psychological needs namely autonomy, social appearance, and competence (Deci and Rayan 2012).As a result, an attempt was made to understand the motivation for sports practice in the school context, as well as its relationship to the satisfaction of basic psychological needs.

1- Problem :

Many coaches and educators wonder about the different behaviors of students or athletes in learning situations, why some hesitate to take part in the activities offered to them while others show maximum commitment? Why do some give up while others show great perseverance and a desire to progress? The common point to all these questions, in the context of physical activities and sports, is obviously motivation. This concept "represents the hypothetical construct used to describe the internal and/or external forces that produce the initiation, direction, intensity, and persistence of behavior" (Vallerand & Thill, 1993, p. 18). Motivation is necessary for learning because it is one of the most important determinants of performance, as it motivates the student to actively engage in the learning process.

Sensitive to this growing social concern, work in educational psychology has multiplied on the theme of motivation. In these, the role of the teacher and more precisely the satisfaction of basic psychological needs. Through the behaviors he or she implements, the nature of his or her interactions with students, and the psychological climate he or she establishes, the teacher is likely to "make a difference. To do this, the teacher must have a thorough knowledge of the motivational process and of personal and situational characteristics, in order to be

able to stimulate the student's motivation, particularly by satisfying his or her basic psychological needs. Therefore, it is important to study the motivation to practice sports in a school context and to verify its relationship with the satisfaction of basic psychological needs. To do this, we will try to answer the following questions:

1) What is the motivational profile of the students to the practice of the physical and sports activity in school context?

2) What is the nature of the motivation to practice PSA in a school context?

3) What is the nature of the relationship between the satisfaction of basic psychological needs and the motivation to practice PSA?

3- Research hypotheses:

1) The motivational profile of students to the practice of physical activities and sports in school context is characterized by a high level of self-determination.

2) The nature of the motivation to practice physical activities and sports in a school context is self-determined.

3) Motivation to practice sports in a school context is positively correlated with the satisfaction of basic psychological needs.

4- Research Goals and Interests:

This study has four goals, the first goal of our research is to determine the motivational profile (self-determined or not self-determined), the second goal is to determine the level of self-determination of our sample. The third objective of this study, is to ascertain the students' perception of feeling satisfied with basic psychological needs. The fourth and last objective of this study is to verify the nature of the relationship between the level of satisfaction of these psychological needs (competence, autonomy, and social belonging) and the motivation to practice physical activities and sports in a school context.

5- Theoretical framework of the study :

5-1- The notion of self-determination: Deci and Ryan's (2000, 2002) theory of self-determination is a model that seeks to understand and explain the motivational dynamics that drive an individual to engage or not engage in an activity. It postulates that every human being is an active organism that innately seeks to continually increase its human potential, to develop psychologically through the discovery of new perspectives, through the mastery of new challenges, and through the satisfaction of three basic psychological needs, namely a need for competence, autonomy, and social belonging.This theory also develops the idea that there are multiple reasons why someone engages in a physical activity. There are different forms of motivation that differ in their degree

of self-determination, that is, the degree to which an activity is performed with a sense of free choice and internal consistency. Deci and Ryan (2002) conceive of three main types of motivation organized along a continuum: (a) intrinsic motivation; (b) extrinsic motivation; and (c) amotivation. Each form of motivation is associated with a level of self-determination that is characterized by a greater or lesser degree of satisfaction of basic needs.

5-2- Self-determined motivation in physical education and sport

5-2-1- Motivational climates: Many studies have used Vallerand's model (1997) to better understand what determines motivation in school physical education. A student's motivation depends largely on the motivational climate established in the classroom by the teacher (Tessier and Trouilloud, 2006). The teacher who creates a climate that supports students' autonomy will have a positive influence on students' self-determined motivation because it facilitates the satisfaction of their needs for autonomy, competence and social belonging.

5-2-2- Need for competence: Ryan and Deci (2002, p7) define the need for competence as an innate need "to interact effectively with one's social environment and achieve desired performance." This need to master the environment is considered one of the three essential nutrients of self-determined motivation, and perceived satisfaction of the need for competence has a positive effect on self-determined motivation. Numerous research studies, conducted in the context of physical education, have confirmed these links by clearly demonstrating that competence need satisfaction positively influences all three forms of intrinsic motivation and identified regulated extrinsic motivation, and negatively influences introjected regulated extrinsic motivation, externally regulated extrinsic motivation, and student amotivation in physical education (Cox & Williams, 2008)

5-2-3- Need for autonomy: The particularity of the theory of self-determination is to postulate that the satisfaction of the need for autonomy is a nutrient as essential as the need for competence in the motivational dynamics of individuals (Ryan & Deci, 2007). This premise has been observed repeatedly in the physical education literature where researchers show both a positive relationship between high perceived autonomy and self-determined student motivation (Standage and al, 2003, 2005, 2006). In a quasi-experimental study (Prusak & al. 2004), adolescent girls who had the opportunity to make choices about physical activity in physical education class were more self-motivated. Similarly, Ward & al. (2008) argue that a controlling motivational climate, which is characterized by the use of directives, impositions, and pressure tactics, as well as the absence of choice, is not conducive to students' self-determined motivation. Thus, the teacher must listen to their students in order to be able to construct

relevant compromises between their obligations (the program) and the students' aspirations.

5-2-4- Need for social belonging: The need for social belonging is defined as the need to feel part of a group and to be recognized by it (Ryan & Deci, 2002). This need to form social bonds is considered to be innate and universal: "people who have something in common, who share common experiences, or simply who are exposed to each other often, naturally tend to form friendships" (Baumeister & Leary, 1995). The need for social belonging is less studied in the literature. Nevertheless, a few studies, conducted in the context of school physical education, observe that the satisfaction of the need for social belonging positively influences self-determined motivation in physical education (Ntoumanis. 2005; Standage et al. 2003, 2005). Among the determinants of this social need, Ntoumanis (2001, 2005) shows that students who are invited by the teacher to engage in cooperative learning develop a high satisfaction of their need for social belonging, which will subsequently positively influence the adoption of self-determined motivation for the activity practiced.

6- Methodology:

6-1- Study sample:

We opted for a simple random sample composed of 146 students aged between 16 and 18 years old enrolled in different high schools in the city of Bejaia.

6-2- Research materials:

6-2-1- Sport motivation scale (Brière & all 1995). :

This scale measures the intrinsic and extrinsic motivation that people may have for the practice of PSA. It also measures the seven motivational forms. The scale (EMS) is composed of a total of 28 items, i.e. 4 statements for each of the seven subscales and measured on a Likert scale of 1 to 7 points.

To calculate the self-determination index, the following formula was used, which is quoted in the test manual (Brière & al. 1995), where positive values indicate self-determined motivation, while negative values indicate non-self-determined motivation or low self-determination.

I = ((2* (IMS + IMK + IMAC) / 3 + EMID) - ((EMINT + EMEXR)/2 + (2*AM)).

The coding key of (The MSE):

- Intrinsic motivation to know (IMK) #1, 11, 17, 24
- Intrinsic motivation to achieve (IMAC) # 5, 10, 15, 22
- Intrinsic motivation to stimulation (IMS) # 7, 12, 19, 26
- Extrinsic motivation-identifying (EMID) # 3, 9, 18, 25
- Extrinsic motivation-introjected (EMINT) # 6, 13, 21, 27
- Extrinsic Motivation-External Regulation (EMEX R) #2, 8, 16, 23
- Amotivation (AM) # 4, 14, 20, 28

6-2-2- Basic Psychological Needs Satisfaction Scale: (Gagné. M. 2003):

This scale measures the satisfaction of basic psychological needs of students during the practice of sports activities. This scale measures the three constructs of basic psychological needs (social belonging, autonomy, competence). The scale is composed of a total of 21 items, 10 statements for the need for social belonging, 6 statements for the need for autonomy, and 5 statements for the need for competence, this test and measured on a scale of 1 to 7 points

The coding key of the (BPNSS):

- The need for social belonging: 2, 5, 6, 7, 9, 12, 14, 16, 18, 21
- The need for autonomy: 1, 4, 8, 11, 17, 20
- The need for competence: 3, 10, 13, 15, 19.

6-3- Procedure:

At the end of the PE sessions, we proceeded to the distribution of the two scales for the students: Sport Motivation Scale (SMS) and the Basic Psychological Needs Scale (BPNS). The purpose of these two tests was then clearly explained, and the interest of our study. Students were given ample time to respond objectively. It was also emphasized that the results will be anonymous; letting the students know that it is important to answer honestly by checking only one proposition that best fits their personal opinion. The collection of the scales was done right after all the students had finished answering.

6-4- Statistical tool:

Our statistical approach is partly descriptive. For the MSE, we calculated the average of the 7 motivational constructs to be able to identify the motivational profile first, and then we calculated the self-determination index. The mean and standard deviation of the Basic Psychological Needs Satisfaction Scale (BPNS) were calculated. Lastly, the various correlations were calculated using the Pearson test (R) in order to verify the nature of the relationship between motivation and satisfaction of basic psychological needs.

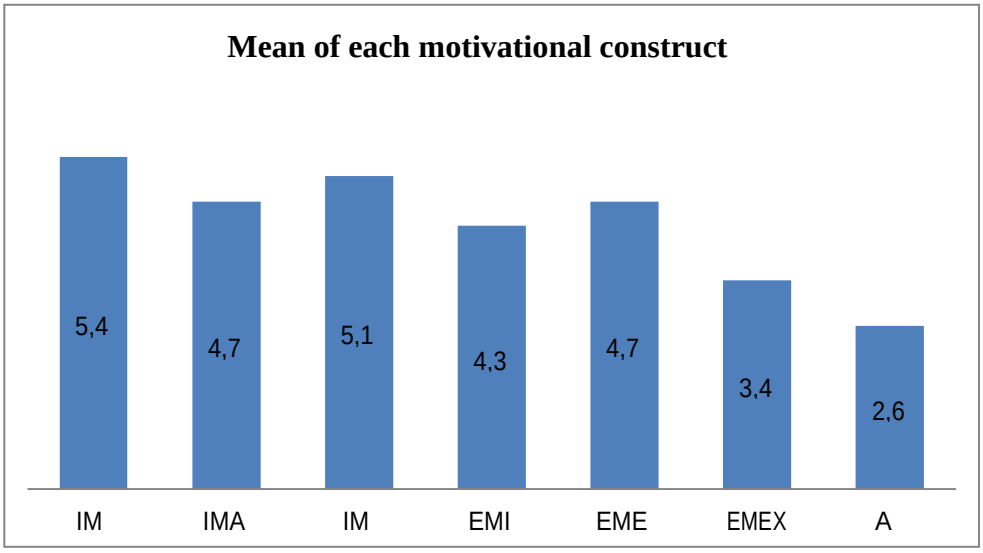
7- Presentation of the results of the Sport Motivation Scale (SMS):

7-1- Presentation of the results related to the motivational profile of our sample

Table 1: Average scores of the motivational construct

Motivational construct	Item 1	Item2	Item 3	Item4	Mean
IMK	5,5	5,92	5,06	5,39	**5,47**
IMAC	5,12	4,3	4,5	4,98	**4,73**
IMS	5,96	4,29	5,63	4,73	**5,15**
EMID	3,12	4,94	5,17	4,08	**4,33**
EMINT	4,19	5,08	4,33	5,31	**4,73**
EMEXR	2,85	4,29	3,75	2,82	**3,44**
AM	**2,1**	**1,88**	**2,48**	**3,85**	**2,68**

Figure 1: The motivational profile of the sample.



The results recorded in Table 1 show that our sample expresses significant scores in the self-determined constructs (IMK, IMAC, IMS) which vary from (4.73) for intrinsic motivation to achievement and (5.47) for intrinsic motivation to knowledge. We also note values higher than the median for the extrinsic motivational constructs that are characterized by a good degree of self-determination, namely the extrinsic motivation introjected (EMINT) with a score of (4.73) and (4.33) for the extrinsic motivation identified (EMID), these values are higher than the median which is 4. On the other hand, we recorded lower values than the median for the motivational constructs characterized by a low level of self-determination, namely externally regulated extrinsic motivation (EMEXR) with a score of (3.44) and amotivation (AM) with a score of (2.68).

7-2- Presentation of the self-determination index for our study sample:

Table 2: Student Self-Determination Index:

Parameter	Score
Self-Determination Index	5.11

The self-determination index of the sample is (5.11). It can be seen that this is a positive value that indicates a high level of self-determination among the students. It can be assumed that this index is the result of a working climate and varied and non-repetitive learning situations. Thus, the PE session is characterized by atmosphere, freedom of expression, and fun. The students are at the origin of their own behavior.

7-3- Presentation of the results of the Basic Psychological Needs Scale (BPNS):

7-3-1- Presentation of results related to basic psychological needs:

Table 3: Student Basic Psychological Needs Averages.

Type of need	Average
Social belonging need	**4.2**
Autonomy need	**4.78**
Competence need	**4.42**
All needs	**4.47**

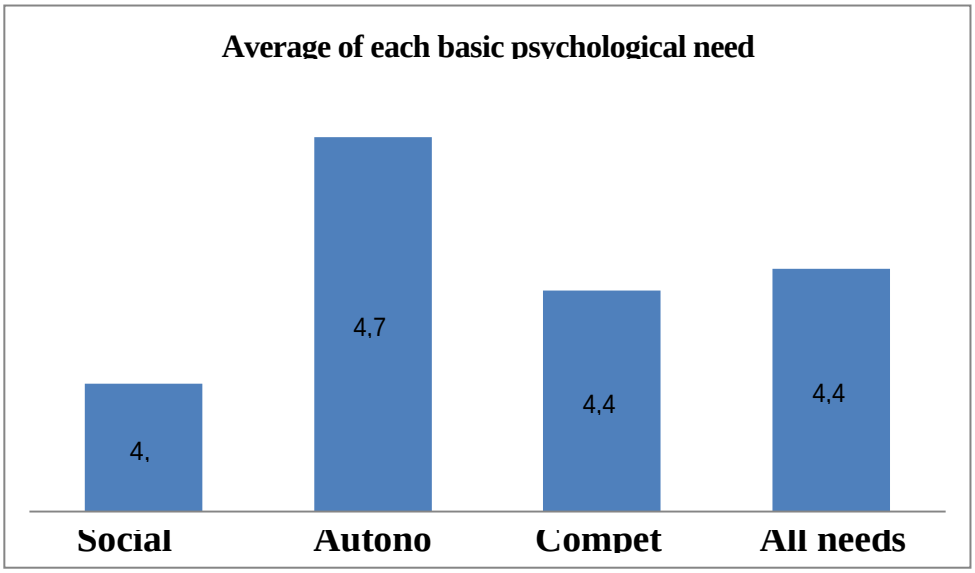


Figure3: Satisfaction of basic psychological needs of the sample

Table 3 shows that our sample members scored very close together on the three basic psychological needs. Thus, we recorded a mean score of (4.2) for the need for social belonging, and (4.42) for the need for competence. The highest score was (4.78) for the need for autonomy, which can be explained by the fact that adolescents need to assert themselves as autonomous individuals capable of making their own choices. The average score for all the needs is (4.47). These results, which are higher than the median of (4), show that the students tend to perceive that the teacher, through his or her behaviour and the motivational climate that he or she sets up during the physical education and sports sessions, ensures that basic psychological needs are met.

7-4- Presentation of the correlations between the motivational index and the basic psychological needs:

7-4-1- Correlation between the motivational index and the need for social belonging: The table below represents the means and standard deviations and Person's correlation index (R).

Table 4: Correlation between self-determination index and social belonging need.

Correlation	Mean	standard deviation	R	Threshold
Need for social belonging	4,2	0,63	0.52	Alpha=0.05
Self-determination index	5,11	2,79		

Table 4 shows a positive correlation between the self-determination index and the need for social belonging (R=0.52).

7-4-2- Correlation between the motivational index and autonomy need : The table below represents the means and standard deviations as well as the correlation index between the self-determination index and the feeling of autonomy of our sample.

Table 5: Correlation between the self-determination index autonomy need.

Correlation	Mean	standard deviation	R	Threshold
Autonomy need	4,78	0,69	0.71	Alpha=0.05
Self-determination index	5,11	2,79		

The results recorded in Table 5 confirm a positive correlation between the self-determination index and the need for autonomy in our study sample (R= 0.71).

7-4-3- Correlation between the motivational index and the need for competence: The table below represents the means and standard deviations as well as the correlation index between the self-determination index and the need for competence of our sample.

Table 6: Correlation between the self-determination index and competence need.

Correlation	Mean	standard deviation	R	Threshold
Competence need	4,42	0,88	0.	Alpha=0.05
Self-determination index	5,11	2,79	56	

The data recorded in Table 6 show a positive correlation between the self-determination index and the need for competence of our sample members (R= .015).

7-4-4- Correlation between the motivational index and the set of basic psychological needs: The table below represents the means and standard deviations as well as the correlation index between the self-determination index and the basic psychological needs of our sample.

Table 7: Correlation between the self-determination index and basic psychological needs.

Correlation	Mean	standard deviation	R	Threshold
All psychological needs	4,47	0,46	0.61	Alpha=0.05
Self-determination index	5,11	2,79		

The results recorded in Table 7 show a significant positive correlation between the self-determination index and the satisfaction of basic psychological needs (R= 0.61).

8- Discussion of the results:

The first hypothesis of our study states that the motivational profile of students in the practice of physical activities and sports in school context is characterized by a high level of self-determination. The results of our research indicate high levels for the four most self-determined motivational constructs, namely: (5.47) for intrinsic motivation to knowledge (IMK) and (4.73) for intrinsic motivation to achievement (IMACT), and (5.15) for intrinsic motivation to stimulation (IMS) and (4.33) for identified extrinsic motivation (IEM).

These results may be explained by self-determined motives related to factors such as competence and fun (Ryan and 2002). Vlashopoulos and all (2000), considers that the self-determined student feels more pleasure and satisfaction and provides more effort, while Pelletier and Vallerand (1993) emphasize the desire to discover new knowledge and training techniques. A value of (4.74) was also noted for the motivational profile which is characterized by a medium level of self-determination, namely, introjected extrinsic motivation (MEINT). This result can be explained by the fact that the teacher uses cooperative learning that develops in the child a high satisfaction of the sense of social belonging and shows self-determined motivation.

There were two values below the median (3.44) for extrinsic motivation external regulation, and (2.68) for the least self-determined motivational profile which is amotivation. The study shows that the motivational profile of our sample is characterized by a high level of self-determination, these results can be explained in a general way by the fact that the teacher's instructions on the importance of carrying out the tasks during learning promote self-determined motivation. The nature of the physical education session means that the teacher provides opportunities for students to make choices and take responsibility, which promotes their autonomy and thus self-determined motivation. These different attitudes are verified in different psychological studies that address motivation in the school context (Deci & Ryan, 2004). The first hypothesis of our study is therefore confirmed.

The second hypothesis of this study states that the nature of motivation to participate in sports in the school context is self-determined. It is noted that the index of self-determination of students in school context is (5, 11), this positive value testifies that the self-determined nature of motivation of students to practice sports. These results can be explained by the fact that the teacher supports his students to overcome the difficulties and tasks proposed in the learning situations. These results are in agreement with the scientific literature in the field of motivation (Deci and Ryan, 1987; Vallerand and Pelletier, 1991). These results confirm the second hypothesis of our study.

The third hypothesis of our study stipulates that motivation to practice sports in a school context is positively correlated with the satisfaction of basic psychological needs. The recorded results of this study reveal significant positive correlations between the students' self-determination index in sports practice and the three basic psychological needs. These results are in agreement with the data of the scientific literature, so several researches have verified that the satisfaction of these psychological needs has important positive impact on the motivation. Research in the context of physical education shows that a self-determined motivation is positively correlated with the feeling of taking pleasure, and with positive affects (Moratidis and all, 2008). It favors intrinsic motivation, which consists of engaging in activities for the inherent interest and pleasure in them (as opposed to extrinsic motivation, which consists of engaging in activities for external benefits such as pay). These results can also be explained by the fact that the PE teacher's strategies often play on the satisfaction of students' basic psychological needs and thus on self-determined motivation. The third hypothesis of our study is therefore confirmed.

9- Conclusion:

Motivation occupies an important place in the social sphere, especially in sports and physical education. Indeed, for a physical education teacher, motivation is an important psychological factor that allows him or her to establish an adequate motivational climate in order to encourage the students' commitment in the different learning situations. Physical activity contributes to physical and psychological well-being and plays an increasingly important role in the prevention of diseases and health disorders such as overweight and obesity. The World Health Organization defines health as "a state of complete physical, mental, and social well-being and not merely the absence of disease".

Self-determination theory describes the psychological processes that facilitate health and optimal functioning. It is the concept of basic psychological needs that is used to describe the normal growth of the human person toward differentiation and integration as well as to specify the contexts in which healthy psychological functioning is most likely to occur. Indeed, environments that support the satisfaction of psychological needs for autonomy, competence and interpersonal affiliation contribute to psychological health in terms of greater vitality, integration and congruence with the self. The results of this study show that:

- The motivational profile of students to practice physical activities and sports in a school context is characterized by a high level of self-determination.
- The nature of motivation to participate in school sports is intrinsic and characterized by a high level of self-determination.
- The satisfaction of basic psychological needs (autonomy, social belonging, and competence) is positively correlated with motivation to participate in school sports.

This research work provides a better understanding of the different interactions between the satisfaction of basic psychological needs and student motivation. However, the results deserve to be studied in more detail in several directions. It would be interesting to measure the dependent variables objectively by using an observation grid of the teacher's behavior. In addition, in the perspective of going beyond the PE class, it would be interesting to test the validity of this causal pathway model in disciplines other than PE. Finally, it would be necessary in the future to do a pre-test, in order to better understand the psychological mechanisms that explain the change in behaviors observed in teachers and in students, it would be relevant to measure their motivation and their degree of satisfaction of psychological needs.

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