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Students' perception of the future and the consequences for school and physical education

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Abstract

Introduction: The school system is clearly oriented towards future goals. According to various research, students with this kind of orientation perform better in school. This is also because they understand the usefulness of studying to achieve their future goals. However, various factors can influence this view, such as the temporal distance of these goals, their concreteness or a more or less optimistic perception. An excessive focus on these objectives could, however, compromise internal motivation, especially if the activity or subject is perceived as not being very useful for achieving one's goals. Indeed, the perception of usefulness is described in scientific literature as an important factor that can influence both intrinsic and extrinsic motivation.

Aim: The research essentially aims to answer two questions: 1) What kind of perception of the future do Ticino's high school students have? 2) What kind of motivation drives students during physical education lessons? Is there a perceived usefulness of the subject?

Method: Data were collected in all Ticino's high schools by using an online questionnaire. 679 students participated on a voluntary basis. The various questions had to be answered using a Linkert-7 scale. The analysis of the results was done using the software Excel and Jamovi.

Results: Most of the students showed that they are oriented towards a future beyond the high school context, that they believe highly in the usefulness of school and that they have plans for the future but not fully defined. Physical education provokes mixed feelings. The majority of pupils, however, enjoy attending lessons and are intrinsically stimulated. On average, a certain usefulness of the subject is perceived, although there are gaps in the transferability of the teaching outside the school context.

Discussion: From the results obtained, it can be seen that future-orientation contributes, albeit slightly, to school performance. Students who value physical education the most differ in terms of higher intrinsic motivation and greater perceived usefulness. The latter factor seems to be particularly important. Conclusions: If the school and the students have the same goals, teaching is more effective and better results are achieved. That is why it is important to relate teaching to students' needs whenever possible. A better awareness, stimulated by reflections during the lessons could benefit the lesson climate and consequently increase the appreciation of the subject, intrinsic motivation and thus foster learning.

1 Introduction

According to Husman and Lens (1999) it was observed that in high school "many students do not go to school for the intrinsic enjoyment of learning, but because they "have to" or because they realize that education is important for their professional future". By intrinsic motivation it is understood: “when learning or performing at school is a goal in itself” on the contrary, extrinsic motivation consists in carrying out an activity “for the sake of material or other rewards that are not intrinsically related to school learning”. However, this first statement does not seem to reflect the context in which physical education lessons take place. As sub-lined by Carlson (1994) and Ntoumanis (2002), the majority of students participate willingly and appreciate physical education lessons, but, there is a smaller part that is often unmotivated. However, these young people cannot be considered as a homogeneous group. In fact, the factors that determine pupils' behaviour during physical education lessons are many and varied. In the interviews of the following study collected by Carlson (1995) a student declared:

> "I don't understand why you think it [physical education] will make a difference later in your life 'cause what am I going to do? I am in the office, and I can shoot a wad a paper into the waste basket. It is not going to do me any good later on". (p. 4)

It is from these two concepts that this study wants to start. Both statements have a future connotation, it is inferred that students perceive school as a preparation, as a formation, for their future life. It would therefore seem that students have a predisposition and attitude to project themselves into the future, distinguishing what will be useful to them from what will not be useful. The aim of this study is therefore to investigate whether this orientation towards the future also exists among young people attending high schools in Canton Ticino and what consequences this attitude has on school and physical education lessons.

The Swiss school system provides for a compulsory school education of 11 years, subdivided, in Ticino, as follows: two years of kindergarten, five years of primary school and four years of middle school also known as secondary level I (EDK’s General Secretariat, 2020). After acquiring the middle school license, boys and girls can choose whether to start an apprenticeship or to start a training cycle in a secondary level II school like high school, commercial school or professional school. However, only who have achieved sufficiently good results in the last year of obligatory schooling are admitted and allowed to start high school.

The purpose of the high school, which has a duration of 4 years, is defined in the introductory document of the cantonal study plan ("Piano degli studi liceali", *n.d.*)

> The aim of the high school is to offer its pupils the opportunity to acquire solid basic knowledge and to encourage the formation of a spirit of openness and independent judgement. In a perspective of permanent learning, the high school, in addition to developing intelligence, willingness and ethical and aesthetic sensitivity, privileges a broad, balanced and coherent education that gives the pupil the maturity necessary to undertake higher studies and to play an active and responsible role in society.
>
> (Translate from Italian, p. 11)

To achieve this goal, various subjects are taught, including physical education, made obligatory in school programs by the federal law for the promotion of sport (Art. 12 paras. 2, LPSpo): "The teaching of physical education is required in compulsory school and secondary level II " (Translate from Italian). In Ticino's high schools, cantonal regulations provide from 2 to 3 hours of physical education per week, depending on the class (Regolamento delle scuole medie superiori - 414.110). In the study plans of canton Ticino ("Piano degli studi liceali", *n.d.*), physical education is described as follows:

> Physical education is concerned with motor action and its field of investigation is the subject in movement, with all the dimensions linked to his/her personality: psychomotor, physical-biological, cognitive, affective, social-relational and expressive […] At the end of high school studies, the student should have acquired the awareness that motor action stimulates the human being in its entirety, including, in addition to motor learning, the dimensions: affective-emotional, biological, cognitive, expressive, psychomotor and relational. It being understood that all the dimensions described should be taken into consideration and that "know" (knowledge), "knowing how to do" (skills) and "knowing how to be" (attitudes) should be considered in a similar way.
>
> (Translate from Italian, p. 263)

It is therefore clear that the education and the acquisition of high school notions is not an end in itself but has explicitly a future connotation. The goal is to build a solid base that allows the student to further develop in the future through different academic studies with the ultimate goal of being able to make a positive contribution to society.

It is evident that the school system is by its nature oriented towards the future and it is evident that determines the future of young people. For example, not good enough scores in the secondary school I preclude access to high school, strongly influencing the future of young

people. As a result, the message is clear "*engage you at school, do it for your future*", channelling the motivation towards a goal widely distant.

The high school is attended by students who are initially in their fifteenth year of age and who finish, if they do not fail, in their nineteenth year of age. Considering this factor and considering the role of high school education, that is to provide the correct preparation to undertake academic studies, the students' motivations are projected towards a goal that is at least 6/8 years away (to conclude a Bachelor or a Master). For a first high school student 8 years correspond to more than half of her life, the perception will therefore be of a very distant goal.

Another feature to take into consideration is that high school accompanies youth during their adolescent period and then leaves them at the beginning of their early adulthood. Adolescence is a period of transition that brings different changes both physically and mentally. The role of parents and friends also changes. If parents are the reference point in childhood, during adolescence the role and opinions of friends become increasingly important, while those of parents lose importance compared to the pre-adolescent age. Conflicts can therefore be created between these two influences (Helsen, Vollebergh & Meeus, 2000). Adolescent age and long-term goals are factors that characterize high school education and make it a challenging school that represents, at school level and beyond, a significant change from middle school. Various data have been collected at the cantonal level that describe the reality of the Ticino's high schools. In fact, the first year is difficult for many students, so much that the percentage of successful pupils rarely exceeds 70 %. In the following classes, on the other hand, the percentage of graduates rises gradually, but only 55 % of the students manage to finish the high school course without failing and 25 % drop out before finishing (Egloff et al., 2019).

In an article on the web portal "Ticinonline" published in 2010 these high failure rates are discussed:

> "Too many young people in Italian-speaking Switzerland choose to go to high school without any real motivation. Unfortunately, this is the case," confirms Daniele Sartori of the upper secondary education office. [...] Maybe in our society the concept of a career is valued too highly. And people probably still believe that high school is the only way to get one" (Translate from Italian).

This statement underlines the important and deep-rooted presence of the need to prepare one's professional future. Very similar reflections can be found in the interviews collected by Castelli, Cattaneo and Ragazzi (2015), in which the directors of Ticino's high schools express themselves

on the subject as follows: “Today, more than in the past, there are many students enrolling in secondary education who seem to be driven more by family aspirations and uncertainties about their professional future than by an intrinsic motivation to study.” This conclusion also coincides with the article by Husman and Lens (1999) cited at the beginning of the introduction, which emphasised precisely this lack of intrinsic motivation combined with a feeling of moral obligation towards the school.

Therefore, according to the directors, families play a central role in the choice of their children's education. The influence of parents consequently causes a strong extrinsic motivation in young students. In contrast to what the headteachers perceive, however, there are the statements collected on the main motivation of the pupils which led to their enrolment in high school. Only 2 % of students state that their main motivation was to choose high school in order to follow family advice, while 51 % say they enrolled for a specific future educational/professional goal. With this information, however, it is not possible to say whether the need to project oneself into the professional future is itself dictated by the vision and pressure of the family unit or whether this need is consciously felt by the adolescents.

In the research by Castelli et al. (2015), high school students were asked if it was possible to distinguish subjects into two categories of importance for their education. 59 % stated that there were first-class and second-class subjects. On the other hand, 41 % did not think it was possible to make this division. However, pupils were then asked to choose the degree of importance of each subject. Seventy-five per cent ranked physical education as a second-class subject, ranking it 11th in importance out of a total of 15 subjects. In the study by Castelli et al. (2015), however, no data was collected concerning students' enjoyment of the lessons in the different subjects. The absence of this information does not allow to assess the type of motivation since the degree of interest and the degree of importance perceived by the pupil towards the subject are not necessarily correlated but may even be in opposition. For example, a student may consider a subject such as mathematics highly important but find no pleasure or interest in studying it. In this case, the student will be stimulated to study by an external and therefore extrinsic motivation: not getting a bad grade, not being reprimanded by the teacher or parents or by the knowledge that a good grade in mathematics is important for the achievement of his goals and is therefore useful for him. In the opposite case, however, if the student finds the subject personally very interesting, he will be driven by intrinsic motivation. His commitment will be there simply because he enjoys learning without necessarily seeing a future use or perceiving a particular importance of the subject. However, this reasoning of finding a subject more or less

important and useful can only take place if pupils have a vision of their future and the importance they give to it. This vision can be characterised by different aspects, which is why each student will have his or her own perception. This perception of the future is defined by Husman and Lens (1999) with the term Future Time Perspective (FTP), that is “the degree to which and the way in which the chronological future is integrated into the present life-space of an individual through motivational goal-setting processes” and they recognise Lawrence K. Frank and Kurt Lewin like “the first modern psychologists to discuss the importance of the imagined future in understanding human motivation and behavior”. Both psychologists considered the perception of time as an important element in the formation and in the personal development of the individual: a determining factor, for example, in the definition of one's goals throughout life and also in the ability to achieve them. This attitude determines and is determined by the positioning of goals on the time scale. For that reason, each individual has his or her own FTP, which can be more or less short, in other words "how far ahead a person projects one's thoughts" (Daltrey & Langer, 1984). Several studies claim that these differences have consequences on people's motivation (Zaleski, 1987; Gjesme 1975, 1979; Lens, 1986) but also more specifically on students (Van Calster, Lens & Nuttin, 1987; Lens & Decruyenaere, 1991). The results show that a student with a long FTP will be more persevering in the study and "can more easily anticipate the implications of their present class activities for the more distant future (instrumentality) and thus develop longer behavioural means-end structures" achieving greater motivation and learning success (Husman & Lens, 1999). In the data collected by Castelli et al. (2015) it can be read that, among the justifications that pupils give for failing, it is present the factor of lack of goals. In fact, 20 % of those who are promoted think that the causes that lead to a failure are the lack of a clear perspective for the future: "they do not have a well-defined idea of what they will do in the future". This motivation was cited less by the pupils who failed, only 8 %. This could mean that those who are promoted take into account or are more aware of the fact that high school is useful to achieve future goals. There might be more students with long FTP among the promoted students than among the failed students and this might support the thesis of Husman and Lens (1999).

According to Bjorgvinsson and Wilde (1996) the development of a long-FTP would create greater health protection and people would take less risk. The two researchers talk specifically about risks that may affect physical health or personal safety. According to their theory, the amount of risk a person is willing to take depends on the perceived difference between the "value of the future and the value of present time". The same theory could be applied to school

preparation for a test. A student who values his or her future goals and perceives the test as a step towards them will be inclined to speculate less on his or her preparation and, in the end, run less risk of getting a bad score. Another factor highlighted by Van Calster et al. (1987) is that the perception, pessimistic rather than optimistic, can influence the predisposition to move towards the present versus the future. An optimistic view of the future helps young people to study, whereas a pessimistic view, such as a saturated labour market, is a demotivating factor. The same thing applies to one's own aspirations, just as having a clear image of what one wants and does not want to be in the future will lead to giving greater importance to the perception of the future (Markus & Nurius, 1986; Oyserman & Markus, 1990).

However, the aspect where this study wants to focus more, besides understanding the characteristics of FTP among high school students, is the importance they give to a teaching identified as useful for their future. This concept is expressed mainly in two ways in the research carried out so far: instrumentality and utility. Although these two terms can be considered similar (Husman & Lens, 1999), in this research it will be mainly used the term utility. Eccles (1984, as cited in Husman & Lens, 1999) describes the utility as "the importance of [a] task for some future goal that might itself be somewhat unrelated to the process nature of the task at hand". In this research "a task" is considered as school and physical education. The perception of utility is therefore subjective, depending on various personal factors including future goals and individual FTP. It is therefore clear that, depending on the subject treated, a person may perceive utility in a more or less marked way. The same applies to students and school subjects. In fact, as written above, in the study by Castelli et al. (2015) it can be observed that the opinion of high school students on the importance of the various subjects for their education is not perceived in the same way by all. It was demonstrated by De Volder and Lens (1982) that pupils who gave the school a greater sense of usefulness were also more motivated to learn and consequently achieved better results. Perceived instrumentality/utility is therefore a determining factor in motivation (Van Calster et al., 1987) but it cannot be the one and only reason. Creten, Lens and Simons (2001), showed how, despite the awareness of the usefulness that French had for their professional future, some students could not find the motivation to follow French lessons carefully, stating that the way and content of the course were not sufficiently stimulated. Therefore, to develop motivation, the perception of usefulness is an important element, but it is certainly not the only one.

Among the various research and studies carried out on the subject, the following discussion opens up: is doing something because it is perceived as useful for the future to be considered

as extrinsic or intrinsic motivation? Various studies discuss and propose conflicting results. Initially there was a tendency to consider this factor as pure extrinsic motivation and even to undermine intrinsic motivation, but later there were arguments against it, for example Husman and Lens (1999) write in their review: “Many highly intrinsically motivated students are at the same time also highly involved in their future educational and professional careers. They are not only absorbed by their present tasks; many of them are also future oriented. They combine intrinsic goals with instrumentality”. This could be explained according to Raynor (1981, as cited in Husman & Lens, 1999) by arguing that, understanding the usefulness of a task for the future, the person gives more value to it and is consequently more stimulated to perform it. Simons, Vansteenkiste, Lens and Lacante (2004) theorised a "Four type of instumentality" model and concluded that perceived utility can be considered both as intrinsic motivation and extrinsic motivation, depending on various factors. One thing is certain, the perception of utility has a positive effect on motivation; in the school environment it allows good results to be archived and guarantees the effectiveness of the study. It is therefore the teacher's task, in order to stimulate students as much as possible, to help them understand the usefulness of his teaching (Husman & Lens, 1999). Pilot and Bulte (2007) describes school education by metaphorically comparing it to a scale:

> "many students do not see the connection between the successive rungs. They are not told and do not discover why or where they are climbing. Before long they develop vertigo. Often they jump or fall off the ladder before they reach the top". (p. 1)

Answering these questions that students ask themselves is important and also improves the transfer of the notions and principles learned (Ennis, 2015). Being aware of what is being learned and perceiving its usefulness therefore leads to a better transfer of knowledge. The objective of high school education is to prepare pupils for their future role in society, just as the objective of physical education is to encourage the individual globally (“Piano degli studi liceali”, *n.d.*).

Making students appreciate physical activity increases the chances that they will practice sport outside of school hours, which will benefit public health (Hills, Dengel & Lubans, 2015) as well as it is possible to provoke development in various aspects, including social and moral development (Gordon & Doyle, 2015). It is therefore fundamental to provoke a transfer of teaching outside of physical education hours for achieving the aim of high school education of canton Ticino.

The research essentially aims to answer two questions:

1) What kind of perception of the future do Ticino's high school students have?

2) What kind of motivation drives students during physical education lessons? Is there a perceived usefulness of the subject?

The aim of the research is therefore to understand the type of perception of the future of Ticino's high school students and to compare it with their motivations for participating in physical education classes. If the answers to the questionnaire show that students have a tendency to project themselves into the future and that they believe in the usefulness of school to achieve their goals, then; physical education must also follow this vision and meet the needs of students in order to be as stimulating and effective as possible. The second part of the questionnaire, which focuses on physical education, may provide with an indication of the current status of the subject in the canton's high schools. The results may show that physical education is already sufficiently perceived as a useful subject or that it is not sufficiently perceived. Based on the results, it can be seen whether or not changes are needed to make physical education lessons more interesting in this sense. In addition, it will be possible to observe what kind of motivation is most present among the students during physical education lessons. These data will make it possible to highlight the strengths and weaknesses of the teaching. These results can be taken into account to develop the future school programme and to help define teaching strategies and methods. The ultimate aim is to understand the high schoolers' vision of their future and the vison of their education, in order to make the education coherent and effective in achieving its lofty goals.

2 Method

The research, which is qualitative, was carried out using a questionnaire. The questionnaire was designed to be able to answer the research questions, thus allowing a better understanding of the high school context and the students' vision of it.

2.1 Participants

Six hundred and seventy-nine high school students (482 girls and 197 boys) ranging in age from 14 to 23 participated in this research: 168 attended the first year, 196 the second, 179 the third and 136 the fourth. All the high schools in the Canton of Ticino were questioned, 57 from the Mendrisio, 221 from the Lugano 1, 104 from Lugano 2, 161 from Locarno and 136 from Bellinzona. 86.5 % stated that they had never failed a year of high school, so among the participants, only 13.5 % had repeated at least one year.

2.2 Procedure

In order to carry out a research within the cantonal high schools, it is mandatory to contact the Department of Education, Culture and Sport (DECS), submit the research project and receive authorization. The research and the objectives were presented with a formulary provided by the cantonal office. After consideration by DECS, the research within the cantonal high schools was approved. An e-mail was then sent to the secretariats of all the canton's high schools. In the e-mail, the study was briefly presented and the link to the online research questionnaire and a copy of the cantonal authorization received were attached. Finally, the secretarial offices forwarded by e-mail the letter of presentation of the research with the attached link to complete the online questionnaire to all students at their respective locations. During physical education classes, some teachers reminded the students of the possibility of taking part in the research, urging them to participate. Students therefore participated on a voluntary basis and completed the questionnaire during their free time, outside school hours and in complete anonymity.

2.3 Research instruments

An anonymous questionnaire entirely in Italian was developed on the online platform Google Forms. Of course, some personal data were also collected (gender, age and grade) in order to categorize the research subjects. In order to be able to assess the approximate academic performance of the participants, they were asked to indicate approximately an average school grade and the physical education grade. In addition to this, they were also asked whether they

had already failed class. The research questionnaire consisted of various tests (already used in other related studies and explained in detail below) and some individual questions specially designed for this research, which allowed a wide range of results to be collected. For the answers, the Likert-7 scale was used, in which each answer has a score from 1 to 7. The 7-point scale was chosen in order to have more variety in the data and to leave more choice to the participants in enhancing a statement. A 5-point scale would have been more effective in questions where the answer served to create categories. However, it was preferred to keep the same scale for the whole questionnaire in order to unify the values and not to confuse the students during the completion of the questionnaire, the analysis of the answers and the illustration of the results. In addition to these Likert scale tests, there were also two single-choice questions.

2.4 Analysis of results

All responses collected with Google Forms were converted into Excel files (Microsoft Corporation. (2018). Microsoft Excel. Retrieved fromhttps://office.microsoft.com/excel) to allow processing. Statistical analysis, on the other hand, was done with the free software Jamovi (The jamovi project (2021). jamovi (Version 1.6) [Computer Software]. Retrieved from https://www.jamovi.org).

2.4.1 CFC-14. The first test given to students was the Consideration of future Consequences-14 scale (CFC-14), a version with two additional questions added by Joireman, Shaffer, Balliet, and Strathman (2012) that improves on the original 12-question test devised by Strathman, Gleicher, Boninger, and Edwards in 1994. With the CFC14 test it's possible to verify "the extent to which people consider the potential distant outcomes of their current behaviors and the extent to which they are influenced by these potential outcomes" (Strathman et al.,1994). The CFC test was created as a "one factor model", but according to some studies, analysing the results by considering it as a "two factor model" gives better results (Joireman & King, 2016). Therefore, to analyse the results, the factor consideration of immediate consequences (CFC-I) and the factor consideration of future consequences (CFC-F) were considered. The first one represents the attitude to consider immediate consequences while the second one represents those distant from the present, therefore future. The answers were given using the Linkert-7 scale.

The average of the sum of the answers to questions 1, 2, 6, 7, 8, 13 and 14 results in the value corresponding to the CFC-F factor while for the CFC-I factor the corresponding questions are: 3, 4, 5, 9, 10, 11, 12. The higher the value, namely the closer it is to the maximum value of 7, the more representative the factor is of the student interviewed.
For the high school questionnaire, it has been used the Italian version translated and verified by Professor Nigro and her colleagues (Nigro, Cosenza, Ciccarelli & Joireman, 2016).

2.4.2 Instrumentality of studying. A second step was to measure the instrumentality of studying for life, two questions already propose in a research of Lens and Decruyenaere (1991) have been used. “How important is it for your future to do well and commit yourself to school?” was the first one and “What is the chance that you will be successful in the future without doing too well at school and without commitment?” the second one. The resulting value - defined as "Instrumentality of studying" - is obtained by averaging the values of the two questions. The value of the second question, however, is inverted because of its inverse connotation using the 7-value+1 formula. The answers were given using the Linkert-7 scale.

2.4.3 Optimism vs pessimism vision. A variant that could influence the predisposition to future-oriented behaviour is the optimistic or pessimistic perception of one's own future (Van Calster et al., 1987). Consequently, it has been inserted two questions appositively to detect this characteristic as propose by Lens and Decruyenaere (1991).
1) What is your perception of your future?
2) Are you worried that you are not getting good enough school results to meet your expectations?
The resulting value defined as "optimism vs pessimism" is obtained by averaging the values of the two questions. The value of the second question, however, is inverted because of its inverse connotation using the formula 7-value+1. The answers were given using the Linkert-7 scale.

2.4.4 Future Time Perspective. In the previous questions the participants answered thinking about their future. However, when talking about the future, the interpretation of the term can be personal and therefore subjective. Therefore, it was necessary to ask explicitly about the personal interpretation of the term. A long-term perspective could positively influence school success and motivation.

Consequently, in order to understand what kind of future the pupils are referring to (long vs short future time perspective) it has been proposed a single specific question: When you have read “for your future” in the previous questions were was located your future). The possible answers were the following:

1) To the next months of high school
2) To the next years of high school
3) To future studies (universities, professional schools, etc.)
4) To a career after university
5) To a career after high school

2.4.5 Defined future. “Possible selves represent individuals' ideas of what they might become, what they would like to become, and what they are afraid of becoming, and thus provide a conceptual link between cognition and motivation” (Markus & Nurius, 1986). To understand how much the students' image of themselves in the future is defined and consequently how much their future goals can be defined two questions have been posed. “Do you know what you want to do after high school?” was the first and “You know what you don't want to do after high school?” the second one.

The resulting value defined as "Defined future" is obtained by averaging the values of the two questions. The answers were given using the Linkert-7 scale.

2.4.6 Motivations. As already mentioned in the introduction, according to Husman and Lens (1999) it has been observed that many students do not go to school for the intrinsic enjoyment of learning, but because they “have to” or because they realize that education is important for their professional future. To understand if that statement can be the same for physical education the different motivational types were measured with a questionnaire developed by Goudas, Biddle and Fox (1994). As explained by Ntoumanis (2001) this allows to understand what kind of motivation leads students to participate at physical education lessons.

The questionnaire consisted of 4 statements for each type of motivation, which are: Intrinsic Motivation, Identified Regulation, Introjected Regulation, External Regulation, Amotivation. The 5 types of motivation were kept independent so that each factor could be analysed individually. The answers were given using the Linkert-7 scale, so the higher the resulting value, the more representative the type of motivation. Intrinsic motivation is to be understood as a highly stimulating motivation that does not depend on any external factor but develops

through the pleasure itself in participating and practising a certain activity. In contrast, external regulation is characterised by extrinsic motivation: the stimulus to perform the activity is external, such as a reward, a school grade or a possible punishment. This stimulus, depending on the situation, can be more or less stimulating. Identified regulation includes those internal motivations that have a precise purpose and are not limited only to the pleasure of the activity itself. For example: I go to training because I want to improve. Introjected regulation, on the other hand, is a stimulus that derives from a desire to achieve a certain social recognition or to satisfy someone's wish. Finally, the absence of stimuli and motivation, whether intrinsic or extrinsic, is referred to as amotivation (Ntoumanis, 2001). A reliability test was carried out for each of the categories listed above, by calculating the Cronbach's alpha it was possible to verify the reliability of the questionnaire.

2.4.7 Lack of meaning. The physical education survey of Carlson (1995) was used to identify lack of motivation during physical education classes. For this research it has been used only the part of the survey that allow to verify the statements classified as "lack of meaning" with the goal was to understand the perceived utility of physical education lessons. In addition, the first statement of the Carlson's survey (I love gym) was maintained because it allows to see correlation between the appreciation of the school subject and the perceived lack of meaning. The answers were given using the Linkert-7 scale.

2.4.8 Ranking of enjoyment. To compare the appreciation of physical education with that for other subjects, it was asked to classify physical education subject between: 1) Amongst the top three 2) Half ranking 3) Amongst the latest.

2.4.9 Importance of physical activity. Finally, a question was asked to understand the importance that students give to physical activity in general, and how much they think it can be important in the future. This will give further information about the expectations students have of their future and how they imagine it. The answers were given using the Linkert-7 scale.

3 Results

3.1 Average school grades

In Ticino the highest grade is 6 and the lowest that can be obtained is 2 while the sufficiency is set at 4. The approximate school average of the students who participated in the survey is 4.66 while the approximate average grade in physical education is 5.18. Only 3 students out of 679 declared a failing grade in physical education.

3.2 CFC-14

The CFC-14 test revealed two behavioural characteristics in high school students. Participants had to answer the questions by choosing a score from 1 'does not represent me at all' to 7 'represents me fully'. They both scored a very good Cronbach's alpha of 0.728 (CFC-F) and 0.822 (CFC-F). On average, the students scored 4.88 with standard deviation (SD) ± 0.86 for the CFC-F factor and 2.86 (SD ± 0.97) for the CFC-I factor. This means that the CFC-F factor represents their attitude towards the future more than the CFC-I factor. High school students are therefore more likely to adapt their behaviour to the consequences they will have in the future than to consider only the immediate consequences. Only 74 students scored a higher CFC-I than CFC-F, or 10.9 % of the total.

3.3 Instrumentality of studying

The participants answered the two questions by choosing a score between 1, not at all important and 7, very important. The result gave an average score of 5.25 (SD ± 1.13). This value indicates that the school career is considerably considered important for future success. Only 67 participants (9.9 %) scored below 4 and therefore tended not to believe in the usefulness of school success for a good future.

3.4 Optimistic vs pessimistic

Again, in answering the two questions, the students chose a value between 1 and 7. The lowest value represents a very pessimistic view and the highest value a very optimistic view. The average of the two values of the two questions resulted in an average value of 3.86. Considering that the value 4 corresponds to the intermediate value between an optimistic and pessimistic view, the result obtained shows a pessimistic tendency among high school students in Ticino.

This view is particularly influenced by the worry of not achieving the desired grades (second question), in fact the average score for this question is 4.9, indicating a certain apprehension.

3.5 Short vs Long Time Perspective

As shown in *table 1*, only 12 % of the participants in answering the questions of the questionnaire identified the future as something, on a temporal level, quite close referring to the high school context. This characteristic can represent what is called a short time perspective. The remaining 78.8 % have instead a long-time perspective because they focus on a more distant future. 41.4 % think about the future with reference to the next higher studies like university. 39.6 %, on the other hand, go even further into the future thinking about a professional career after university. It is interesting to note that 7.1 % do not plan to attend higher education but intend to enter the world of work after high school.

Table 1

Frequencies of Long vs short future time perception

Levels	Counts	% of Total
To the next months of high school	18	2.7 %
To the next years of high school	63	9.3 %
To future studies (universities, professional schools, etc.)	281	41.4 %
To a career after high school	48	7.1 %
To a career after university	269	39.6 %

3.6 Future defined

The two questions asked to assess the extent to which students have a defined idea of their future and their plans were asked to choose between 1 (not at all sure) and 7 (totally sure).

For the question "do you know what you want to do after high school?" the average score was 4.72, while for the question "do you know what you *don't* want to do?" the resulting average score was 5.78. This means that students know more about what they do not want to do than what they do want to do. Interestingly, 119 students, i.e. 17.5 %, answered with 7: they are totally sure about the path they want to follow and what their goals are. To the question "do you know what you *don't* want to do?" many more 7, with a total of 324 answers (47.7 %). Averaging the two questions, it was obtain a score of 5.25 defined as "definition of the future".

It can therefore be observed that, in general, high school students tend to have a plan for the future but that it is not completely defined. In fact, there are only 88 (13 %) students who answered 7 to both questions and who are therefore very sure of their future plans.

3.7 Motivations

The questionnaire developed by Goudas et al. (1994) allows to understand what kind of motivation drives pupils to attend physical education classes. The reliability test resulted in a cronbach's alpha greater than 0.8 for all categories except Introjected Regulation (0.688), confirming the reliability of the questionnaire.

The *table 2* shows the average values obtained for each type of motivation (7-point scale).

The two factors that can be defined as internal stimuli (intrinsic motivation and identified regulation) have a higher average value than the external stimuli (introjected regulation and external regulation). However, 269 (39.6 %) students scored higher on external stimuli than on internal ones. On the contrary, the average value of amotivation is much lower, with a mean value (M) of 2.75. In the latter category, only 21.8 % of the participants recorded a mean value higher than 4 (mean value of the scale).

Table 2

Mean and SD of every motivation typ

	Intrinsic Mot.	**Indentified regulation**	**Introjected Regulation**	**External Regulation**	**Amotivation**
Mean	4.46	4.24	3.63	3.89	2.75
Standard deviation	1.57	1.63	1.44	1.69	1.71

3.8 I love physical education

On this question, in which the students had to give a grade, minimum 1 maximum 7, the average result is 4.32. 208 students gave a grade lower than 4, which corresponds to 30.6 %. However, there is a significant difference between the grades given by the females and those given by the males. The large number of data collected allows to consider the distribution as normal, due to the central limit theorem. However, since the two groups are significantly different in size, it was used the Welch's t-test which confirms the presence of a significant difference ($p < 0.001$). In fact, the average grade for females is 4.13 while that of males is 4.77.

3.9 Physical education ranking

The 32.4 % of the students rank physical education as one of the 3 subjects they like best, 45.7 % rank it as a medium subject and for the remaining 21.9 %, physical education is one of the subjects they like least.

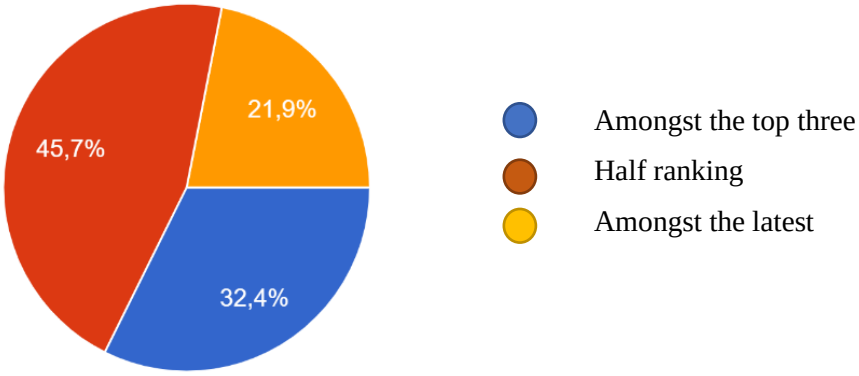

Figure 1. Physical education ranking.

Again, a difference in appreciation between the genders can be seen, especially at the extremes of the ranking (*table 3*). In fact, only 26.1 % of girls ranked physical education as one of their three favorite subjects, compared with 47.2 % of boys. There is also a marked difference at the bottom of the ranking where physical education is ranked by 25.3 % of female high school students and only 13.2 % of male high school students.

Table 3

Frequencies of Ranking by gender

Ranking	Gender			
	Female		Male	
Amongst the top three	126	26.1 %	93	47.2 %
Half ranking	234	48.5 %	78	39.6 %
Amongst the latest	122	25.3 %	26	13.2 %
Total	482	100 %	197	100 %

3.10 Perceived utility - lack of meaning

The participants had to answer the 9 statements by giving a score from 1= strongly disagree to 7= strongly agree. The reliability test confirmed the reliability of the questionnaire, which has a cronbach's alpha of 0.858. The aim is to investigate the possible lack of meaning/utility perceived by pupils towards physical education. This lack of meaning/utility was not detected, in fact the mean score obtained is 3.34 (SD ± 1.3). This means that the students do not tend to agree that there is a lack of usefulness in the subject, but rather that the majority of high school students (475) perceive a significance and in fact obtained a score of less than 4 (intermediate value). Below the threshold of 4 there are 190 students, the remaining 14 students scored equal to 4.

Statement number three "We learn a lot of practical things at physical education, things that I can then use outside the school context", whose score should be inverted because of its connotation, is the only statement that tended to be disagreed with by the students. This means that young people find it difficult to perceive such usefulness and meaning in the teaching of physical education.

3.11 Importance of physical activity in life

High school students were asked to answer the two questions with a value between 1 (not at all important) and 7 (completely important). On average the importance value given to physical activity is 5.4 (SD ± 1.51) for the present. This average value is very similar to the imagined importance for the future: 5.5. As can be seen from the graph below showing the difference between the first and second response, the majority of the participants believe that the importance of physical activity remains mostly stable throughout life. Few students expect major changes in habits.

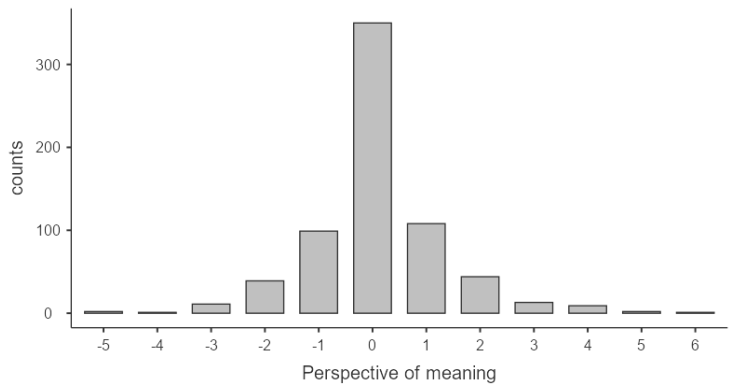

Figure 2. Future perspective of meaning of physical activity.

4 Discussion

The research wanted to investigate the relationship students have with the future. What perception they have, how much they consider it, what importance they give to it, how much it influences their present and how they approach it. The results obtained allow to have some more information on a fundamental topic regarding school education. As explained in the introduction, school education is marked, in an important way, towards the future. High school education itself is justified as a preparation for higher studies and for playing an active and responsible role in society (Piano degli studi liceali, n.d.). If these are the directives, it is essential that the students are also future-oriented, so as to create a concordance between the two protagonists of the school: the students and the teachers. The results obtained in the CFC test allow to confirm that the majority of students are clearly future-oriented. This result confirms the intention of high school students to focus on future goals and to act in the present while considering future consequences. This is a very good starting point to state that the intentions of the curriculum are aligned with the wishes of the high school students. But how can this attitude and perception influence school learning?

As explained in the introduction, Husman and Lens (1999) claim that students who are oriented towards a distant future perform better and that therefore, the type of FTP can influence school success. From the data collected, it was possible to confirm a significant difference between the school average and the type of FTP in all the 5 categories, thanks to a Welch's One-Way ANOVA test. Then, thanks to the Games-Howell Post-Hoc test it was possible to see where those differences take place. Those students who associated the word future "to the next months of high school" had a significantly lower school average than those who answered "to the next higher studies" (p = 0.009) as well as those who answered "to the professional career after university" (p = 0.008). Among the other categories, even if present, the difference is not significant. However, it can be seen on the *table 4* that the more distant the future is, the more the average tends to rise.

Table 4

Descriptions of average school grades in relations to FTP

	Long vs short Future Time Perception (FTP)	N	Mean	SD
Average school grades	To the next months of high school	18	4.36	0.345
	To the next years of high school	63	4.56	0.408
	To a career after high school	48	4.56	0.463
	To future studies (universities, professional schools, etc.)	281	4.68	0.401
	To a career after university	269	4.69	0.415

This result could be read in two ways, according to Bjorgvinsson and Wilde (1996) people with long FTP place greater value to the future and are therefore more willing to sacrifice the present. A scholastic example could be that the student with a long FTP will have fewer problems investing a few extra hours in studying to achieve the desired grades than a student with a short FTP. On the other hand, this result could indicate that those who have more difficulties at school tend to focus on the present because they see the next months/years of high school as a big obstacle to overcome and therefore acquire greater priority over future goals.

Further correlations were sought with the Correlation Matrix test. Kendall's tau-b was used, which is suitable for revealing correlations between both qualitative and quantitative variables but also mixed ones. The CFC-F value has a weak positive correlation with the school average (Kendall's Tau B = 0.120) while the CFC-I factor has a weak negative correlation (Kendall's Tau B = - 0.194). A weak correlation is therefore present but does not necessarily indicate a cause-and-effect relationship. Thus, it cannot be said that the single consideration of future consequences causes an improvement or a worsening of school performance. There are certainly many different factors influencing students' academic performance. Performance is not only defined by the average school grade but also by whether a pupil is promoted or failed. As already mentioned in the introduction, the high school environment is marked by many failures. Many pupils fail and the reasons can be varied.

On this subject, in the interview conducted by Castelli et al. (2015), a director of a Ticino high school claims that too many students choose to attend high school not so much for an intrinsic motivation as for uncertainty about their professional future. The hypothesis is that at a cultural level, in Ticino, high school is seen as the best training for a career and the one that allows for more choices in the future. The same pupils claim that the failure of their peers is also due to a lack of objectives. This lack of clear objectives leads to a lack of motivation and thus to poorer performance at school. This theory is also underlined by Markus and Nurius (1986) and Oyserman and Markus (1990).

In the data collected, however, it is not possible to confirm this link. In fact, the mean value of the "defined future" is 5.26 (SD ± 1.33) for those who have never failed and 5.22 (SD ± 1.42) for those who have already failed, values which are practically equal. In fact, a goal can be the same for two people and defined in the same way, but there are other factors that influence the perspective and consequently the determination to achieve it. However, it is perceived from the values obtained in "defined future" that certainty about the future is not highly prevalent among high school students. The results suggest that most seem to have ideas about the direction they would like to take but not much more confirming the feelings of the director interviewed by Castelli et al (2015). The future that seems to become more and more defined as the years go by, so much so that the average value for the 4th grade classes is 5.89 (SD ± 1.15). In any case, according to the data obtained, this factor does not affect school performance since there is no significant difference between school average and level of "defended future". However, it would be interesting to understand how many high school students are really motivated by an intrinsic motivation and enjoyment towards studying rather than by uncertainties about the future or other external motivations. Unfortunately, with the questions asked in this research it is not possible to obtain this information. However, there is a significant difference in the values of "Instrumentality of studying" ($p = 0.019$) and in the two values CFC-F ($p = 0.038$) and CFC-I ($p < .001$) between those who have already failed and those who have not. The values (*table 5*) indicate that, on average, those who have failed in school think that academic success is less helpful for their future success. Similarly, a higher value for CFC-I and a lower value for CFC-F are also noted. This would mean that those who failed have a somewhat more present-based attitude and tend less to consider the future consequences of their actions. However, the difference between the two CFC values is still important and indicates an attitude towards the future.

Table 5

Difference between those who have already failed and those who have not

	Group	N	Mean	SD
Defined future	No	587	5.26	1.326
	Yes	92	5.22	1.417
Instrumentality of studying	No	587	5.30	1.080
	Yes	92	4.95	1.364
Result CFC-F	No	587	4.91	0.840
	Yes	92	4.69	0.968
Result CFC-I	No	587	2.81	0.966
	Yes	92	3.18	0.958

In the introduction it was emphasised that pupils find themselves pursuing quite different goals. Indeed, one might assume from the data that this is a difficulty for many students. Not extreme CFC-F data and a marked preoccupation with school performance and grades combined with a high perception of the importance/utility of school can certainly make schooling a source of stress: pressure that could influence the vision of the future. In fact, in the results it is said that high school students have a pessimistic view of the future because of the marked preoccupation with school evaluations and the achievement of their school goals. In fact, a correlation, albeit weak (Kendall's Tau B = 0.230), between school average and the optimism/pessimism factor is shown by a correlation matrix test. This correlation indicates that the higher the grades, the more optimistic the view of the future.

It would be useful for a more in-depth examination of this topic to have some indication of the motivation of pupils to engage in high school. In this way it would be possible to better understand how much the consideration of the future can really influence learning and how much is actually part of the students' motivations. However, it is clear that high school students in general are future-oriented and it seems quite evident, also from the data obtained, that this aspect is correlated to school performance.

As far as the future of physical activity is concerned, it is possible to say that sport will ideally maintain the same importance in their imagination as it has now.

According to trends recorded by the Federal Office of Sport, physical activity is becoming increasingly important for the Swiss population, but only 30 % of the population will not change their habits during their lifetime. The remaining 70 % will change their habits and most of them will become less active (Lamprecht, Bürgi & Hanspeter, 2020). These statements seem optimistic: let's hope they bode well for the future.

Specifically, with regard to physical education, the data collected allows us to have a more detailed overview of the role of the subject and the motivation of students to participate. Firstly, we can see that the average grade in physical education is higher than the general average, which means that, in general, the grade in physical education does not have a negative impact on the school average. Nevertheless, physical education is a subject which causes inhomogeneity. As can be seen in the *figure 3* below, the answers to the statement "I love gym" are spread across the whole spectrum of the scale. However, the values above 4 are more popular. In fact, the average value for this statement is 4.32. This value is certainly not synonymous with an unconditional love for the subject, in fact, also as proof of the lack of homogeneity, we have the answers obtained regarding a hypothetical ranking. As written in the results, 32.4 % rank physical education as one of the 3 subjects they like the most, 45.7 % rank it as a medium subject and for the remaining 21.9 %, physical education is one of the subjects they like the least. Moreover, there is a significant difference between the appreciation of boys and that of girls, who tend to like physical education less. Appreciation is certainly a term we can use to assess the motivation to participate in lessons.

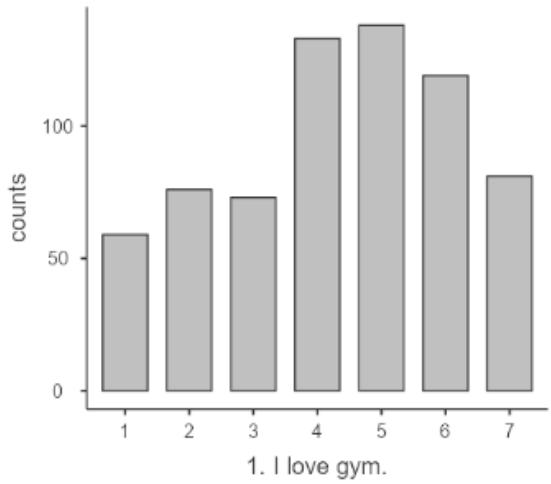

Figure 3. Distribution of values assigned to physical education.

Always analysing the differences between the three categories of appreciation we can see, thanks to the One-Way ANOVA (Welch's) test, that there is a significant difference in the mean values for each type of motivation as well as for the value of lack of meaning (*table 6*). This means that all factors together compose and influence the appreciation of the subject.

Table 6

Differences between categories of appreciation

	F	df1	df2	p
Intrinsic Mot.	190.83	2	369	< .001
Indentified regulation	104.73	2	374	< .001
Introjected Regulation	3.43	2	356	0.034
External Regulation	35.70	2	371	< .001
Amotivation	155.05	2	354	< .001
Lack of meaning	213.03	2	364	< .001

Husman and Lens (1999) stated that: "many students do not go to school for the intrinsic enjoyment of learning, but because they "have to" or because they realize that education is important for their professional future". Thanks to the results of the questionnaire by Goudas, et al. (1994), we can confirm that this statement is also true in the context of physical education. In fact, although the majority confirm a certain pleasure in attending physical education classes as claimed by Carlson (1994) and Ntoumanis (2002) - showing a good level of intrinsic motivation - almost 40 % are motivated more by external rather than internal stimuli. Very similar data were also found in the study by Ntoumanis (2001). The most popular motivation was intrinsic motivation "because it's fun" (M = 4.79 SD ± 1.72), but in second place was extrinsic motivation "because that's what I am supposed to do" (M = 4.72 SD ± 1.93). In order to better understand this second statement we can use question number 5 of the questionnaire developed by Carlson (1995) in which the learners were asked whether they would attend physical educations lessons if attendance was not compulsory. The 34.8 % answered with a value lower than 4, so they would tend not to participate, 12.7 % answered with the intermediate value 4 and 42.6 % with a higher value, so they would tend to participate anyway. To go even further into detail, we can see that in general, the determining factor is the appreciation of the subject. In fact, by dividing the sample into three according to the answer given to the question named "rankig" and carrying out a One-Way Anova (Welch's) test, given the different size of

the three groups, a significant difference is shown ($p < 0.001$). The Games-Howell's Post-Hoch test confirms that the significant difference is present between all three groups. Among those who rank physical education as a preferred subject, 81.2 % would tend to participate even if it were not compulsory, the percentage drops to 50.3 % among those who consider it mid-range. On the other hand, among those who rank the subject as their least favorite, only 24.3 % would still participate.

However, it is interesting to explore the exceptions. In the *table 7* below, it can be seen that there are students who ranked physic education as one of their favorite subjects but then stated that, if attendance were not compulsory, they would never or not regularly attend lessons. The same casuistry is also present in reverse. There are pupils who really do not like attending sports lessons but who would still turn up, even if they were not obliged to.

Table 7

Frequencies of 5. If gym was not required, I would still take it.

	Ranking		
5. If gym was not required, I would still take it.	**Amongst the top 3**	**Half ranking**	**Amongst the latest**
1	8	36	61
2	6	34	28
3	13	27	23
4	14	58	14
5	35	64	6
6	50	54	9
7	93	39	7

1= strongly disagree - 7= strongly agree

Selecting the group "amongst the top 3" and dividing it into two groups according to the score given to the statement on participation several significant differences can be noted thanks to Welch's T-test.

Comparing the group that answered with a value from 1 to 3 with the group that answered with a value from 5 to 7 it is possible to see that the first one has a school average of 4.39 (SD ± 0.21), lower than the second group (M = 4.62 SD ± 0.43). No significant difference instead with the average grade in physical education. With regard to the internal stimuli, i.e. intrinsic motivation and identified regulation, the first group has, also here, lower average values than the second. For example, to the statement "PE is fun" the average value is 5.29 (1.16) against 6.15 (SD ±1.06) of the second group as well as for the statement "I love gym"; the first group responded with an average value of 4.89 (SD ± 1.01) while the second 6.06 (SD ± 0.95). The first group also has a higher value for amotivation (although remaining below the intermediate value of 4). There is no significant difference with regard to external stimuli: Introjected regulation and external regulation. The biggest difference can be seen in the perception of "lack of meaning". The group that would skip the lessons has a lower perception of usefulness than the second group. The difference in mean is considerable, 3.79 (SD ± 0.76) for the first group against 2.11 (SD ± 0.73) for the second.

In the opposite case, selecting the group "amongst the latest" and dividing in the same way as explained before we can also notice several significant differences. The group that answered with a value from 1 to 3 has the lowest school average (M = 4.72 SD ± 0.39) compared to those who answered with a value from 5 to 7 (M = 4.94 SD ± 0.36). The latter also have on average a higher physical education grade. Also in this case, exactly like the previous one, intrinsic motivation and identified regulation differ significantly between the two groups. On average, the first group has lower values for these two types of motivation. Also in this case, the first group answered with a significantly lower value to the statement "PE is fun" (M = 2.70 SD ± 1.49) while the second group indicated a value even above the intermediate threshold (M = 4.14 SD ± 1.73). The same phenomenon can be observed with regard to amotivation where the first group has significantly higher values. There is no significant difference instead, with regard to external stimuli. Also the statement "I love gym" has different values between the two groups. The first group answered with a mean value of 2.11 (SD ± 1.15) while the second one 3.41 (SD ± 1.33). In both cases, however, below the median value of 4. This threshold divides the two groups with regard to lack of meaning. The first group perceives a great lack of meaning/utility in the physical education lessons. In fact, the mean value is 5.03 (SD ± 0.91) while for the second group it is 3.41 (SD ± 0.86).

There is also a significant difference in the perspective of the importance of physical activity in daily life. On average the first group thinks that physical activity will gain in importance in the future (+0.57) while for the second group it will lose slightly (-0.14).

By contextualising the initial quote from Husman and Lens (1999) to the teaching of physical education in Ticino's high schools it is possible to quantify the "many students". According to the data collected, 34.76 % of high school students would tend not to participate in physical education lessons if it were not compulsory but participate only because "they have to". But how come they participate only because they have to? Where is the lack of incentive for a hypothetically voluntary participation? No significant difference can be attributed to external motivation or perceptions and attitudes regarding the future. Thanks to the data collected it can be seen that those who enjoy physical education experience pleasure and enjoyment during the lessons and are therefore intrinsically more motivated; in fact the absence of stimulation, indicated as "amotivation" is significantly less present. Also, the perception of lack of meaning seems to be a fundamental element, in fact the mean values are significantly lower for those who would participate spontaneously in physical education lessons. These characteristics occur both among those who love the subject and those who do not. In order to check how important the correlation between the mentioned elements is, a correlation matrix test was carried out. As response 5 is qualitative and the other variables quantitative, the Kendall's tau coefficient was chosen. The factor showing the highest correlation with potential voluntary attendance is lack of meaning (*table 8*)

Table 8

Correlation Matrix between factors

		Intrinsic Mot.	Indentified regulation	Amotivation	Lack of meaning
Lack of meaning	Kendall's Tau B	-0.616 ***	-0.520 ***	0.628 ***	—
	p-value	< .001	< .001	< .001	—
5. If gym was not required, I would still take it. (R)	Kendall's Tau B	0.530 ***	0.457 ***	-0.529 ***	-0.671 ***
	p-value	< .001	< .001	< .001	< .001

It is not easy to understand why, in spite of an appreciation of the subject and a fair perception of its usefulness, some students would still not participate in the lessons. However, some hypotheses can be made. Comparing the data of the latter with the data of those who do not like physical education but would attend voluntarily, it can be seen that there are few significant differences.

The first hypothesis is that the commitment to learning and dedication to study is a determining factor. In fact, the second group has an average score of 4.94 (M = SD ± 0.36) higher than both the comparison group (M = 4.41 SD ± 0.21) but also the average of the entire sample that participated in the questionnaire (M = 4.66 SD ± 0.41). To reinforce this hypothesis there is also a significant difference in the question "How important is it for your future to do well and commit yourself to school?" where the average score of the second group (M = 6.23 SD ± 1.27) is clearly higher than that of the first (M = 5.28 SD ± 1.7). The following statements could also reinforce this hypothesis: "Because I would feel bad about myself if I didn't do it" (group 2: M = 5.14 SD ± 2.12 / group 1: M = 3.84 SD ± 2.1), "Because I would get into trouble if I didn't do it" (group 2: M = 4.59 SD ± 2.38 / group 1: M = 3.28 SD ± 1.94) and "If there were no grades, I would still put a lot of effort into physical education" (group 2: M = 5.68 SD ± 1.52 / group 1: M = 4.4 SD ± 1.91). The higher values could mean that these students believe more in school education and are consequently more loyal. This respect for schooling would encourage them to attend physical education lessons anyway, despite the fact that it does not give them much pleasure. This hypothesis could also indicate a conflict of values. School is perceived as important and useful and physical education tends to be perceived as unimportant. This contrast could provoke in these students a feeling of inconsistency that justifies the non-appreciation. Obviously, these are only hypotheses and further studies would be needed to verify their veracity.

A further hypothesis could point to the sportiness of the students as a determining factor. In fact, group one, which would not participate spontaneously in the lessons, seems to be more sporty even outside the school context, since in the question "How important is physical activity for you now?" the resulting mean value is 6.04 (SD ± 1.14) while the second group answered with a mean value of 4.63 (SD ± 1.25). In fact, group one also has a higher mean grade in physical education (M = 5.33 SD ± 0.39 vs M = 5.04 SD ± 0.4), they have more fun in physical education lessons (M = 5.16 SD ± 1.07 vs 4.14 SD ± 1.72) and claim to love the subject more (M = 4.76 SD ± 0.93 vs 3.41 SD ± 1.33). Nevertheless, they perceive matter as less useful (M = 3.79 SD ± 0.76 vs M = 3.41 SD ± 0.86). In this case the reason behind this perception and the

resulting behaviour could be attributed to the perception of the meaning given to physical education. This group of mostly sporty students might think that they already do enough sport outside the school context and therefore do not need to participate in lessons, indicating a partial and limited understanding of the aims of physical education. However, this is only an assumption; specific research should be carried out.

Due to the results, it is worth analyzing the data of the "lack of meaning" test in a little more detailed way, which aimed to investigate the pupils' perceived lack of meaning/usefulness in relation to the subject of physical education. This resulted in an average score of 3.34 (SD ± 1.3). A score lower than 4 means that the lack of meaning/usefulness of physical education tends not to be perceived. However, this is a rather positive signal. By means of a One-way Anova Test a significant difference ($p < 0.001$) in the test results between the 3 appreciation categories can be observed. The lowest value in "Lack of meaning" is found in high school students who rank gymnastics as one of their 3 favourite subjects.

This means that they have a higher perception of the meaning and usefulness of the subject. Interestingly, a correlation between perceived usefulness and enjoyment is clearly present. Those who find physical education fun have a lower score in leak of meaning as shown in the *table 9* bellow.

Table 9

Difference between PE is fun and lack of meaning

	Because PE is fun	**N**	**Mean**	**SD**
Lack of meaning	1	36	4.98	1.322
	2	60	4.70	1.175
	3	52	4.19	1.084
	4	100	3.74	1.105
	5	161	3.42	0.971
	6	153	2.79	0.833
	7	117	2.04	0.818

This test does not provide clear indications as to the meaning and type of usefulness that learners see in the subject. It can be noted, however, that in the 9 questions of the test, the only statement to obtain a score higher than 4 (M = 4.32 with SD ± 1.78) which can be translated as "tend to disagree" was statement number 3 "We learn a lot of practical things in PE, things that I can then use outside the school context". This means that high school students do not clearly see how what is taught in physical education can also be useful outside the school context. This is confirmed by a second statement in the motivation test by Goudas et al. (1994): "Because I can learn skills which I could use in other areas of my life" obtained a mean score of 3.82 (SD ± 1.95). However, the test of Goudas et al. (1994) has the opposite numerical orientation to the test "Lack of meaning". This means that high school students tend not to agree with this statement. Again, this statement is the only one to have obtained an average score of less than 4 among the statements used to understand the strength of motivation classified as "Identified Regulation". But let's take a closer look at these results: the pupils who ranked physical education as one of their three favourite subjects are the only ones to have an average score above 4 on the statement "Because I can learn skills which I could use in other areas of my life". But it is also the statement with the lowest score of the remaining statements in the category. Another interesting fact is that those who ranked physical education in the mid-ranged scored an average of more than 4 on the remaining three statements but only 3.78 on the statement just mentioned. Husman and Lens (1999), argued that many students become motivated "because they realise that education is important for their professional future". This motivation does not seem to be present in physical education and therefore the statement does not seem to be representative in this context.

Instrumentality of studying and lack of meaning were the two tests intended to investigate the perceived usefulness of school and physical education respectively. Although the scale is the same, a comparison of the two mean data is not suitable because the two tests have different characteristics. However, it can be seen that, if for the Instrumentality test, only 67 participants (9.9 %) scored below 4 and therefore tend not to believe in the usefulness of school, in the Lack of meaning test, above this intermediate threshold there are many more, 190, or 28 %. This difference could show that many more students actually perceive physical education as a less useful subject than the rest of the school subjects. This would confirm Castelli et al.'s (2015) ranking of importance, which saw physical education in 11th place out of a total of 15 subjects, and could result in a 'conflict of interest' and consequently a lack of motivation.

From the data collected, it can be seen that perceiving the usefulness of the subject is a fundamental factor that promotes appreciation of the subject and also learning: conclusions that agree with Simons et al. (2004) and other studies already mentioned above. One can see, therefore, how an improvement in this aspect could favour the achievement of the set goals. But, "the idea that curricula and teaching can involve students in the present and prepare them for the future is a highly challenging task." (Ennis, 2015). How can this challenge be addressed more effectively? According to Gordon and Doyle (2015) "quality learning needs to include time for reflection". Learners need to be given time to reflect on what is happening during the lesson and to realise what they have learned. This reflection should take place both during the activities and at the end of the lesson. In this way learners will understand more about the meaning and usefulness of what is being done. This promotes learning, motivation and transfer of learning to other areas and outside the school context.

Finally, in the scientific literature there is a discussion on how the perception of usefulness is an intrinsic rather than extrinsic motivation. According to the analysis of the collected data carried out with a Spearman correlation matrix test (table 10), the value "lack of meaning" is more related to internal stimuli and therefore to intrinsic rather than extrinsic motivation. These data would show how the perception of utility can be correlated positively with intrinsic motivation and negatively and more weakly with extrinsic motivation. This result could be aligned with the conclusions drawn by Simons et al. (2004) who claimed that, depending on various factors, perceived usefulness could influence both intrinsic and extrinsic motivation. A strong correlation is also present with amotivation, a result that underlines the importance of perceived usefulness in a teaching context.

Table 10

Correlation betweens lack of meaning and motivations

		Intrinsic Mot.	Indentified regulation	External Regulation	Introjected Regulation	Amotivation
Lack of meaning	Spearman's rho	-0.789 ***	-0.694 ***	0.372 ***	-0.146 ***	0.795 ***
	p-value	< .001	< .001	< .001	< .001	< .001

Considering that Ticino's high school students have shown that they consider future consequences in their daily actions; raising awareness of the usefulness by highlighting the transferability of the teachings also outside the school context and contextualising them with

the students' future goals would mitigate the bad motivation "we have to", decrease amotivation and at the same time increase the intrinsic pleasure and appreciation of physical education.

4.1 Strengths and weaknesses of the research

The research obtained many responses from every high school in Ticino and from every class. This allows to have a complete picture of the cantonal context, a positive point that enriches the research. The questionnaire, made up of many questions, allowed to obtain a lot of important data that answered the research's questions. All this information makes it possible to search for many correlations and to highlight significant differences. This significant amount of data, however, made the analysis laborious and demanding, also because there are many possible keys to interpretation. The study's weak point is that the research sample is not proportionally representative of the population. In fact, 70.9 % of the respondents were girls, while in Ticino's high schools the percentage of girls is around 56 % (DECS). This has indeed had an influence on some results, such as the appreciation of the subject, where a significant difference between the two genres was highlighted. A further difference on the sample compared to the population is the percentage of failures. Castelli et al. (2015) indicated that almost 45 % fail at least one year during their high school education. In the questioned sample this percentage is 13.5 %. This difference could be due to two factors. The first one is that a part of the students, when answering the questionnaire, had not yet finished the first year of high school (which is where the highest number of failures occurs). The second could be attributed to the voluntary participation and the length of the questionnaire. In fact, the survey had to be completed in one's free time, outside school hours and lasted an estimated 30 minutes. These factors are likely to have demotivated many students to participate. The hypothesis is that proportionally, more pupils who are particularly diligent have participated, who are also those who perform better at school. A further critical point I find is the value defined as "optimism vs pessimism". If for the first question "What is your perception of your future?" that have a general nature, the result tends to be an optimistic value. The second question "Are you worried that you are not getting good enough school results to meet your expectations?", reverses the situation, thus describing a more pessimistic view. I think, however, that the first one is of a general nature while the second question focuses more on the specific school context, taking into account only this aspect. The two questions are considered in the same way, with the same weight, but I don't think this is necessarily correct or that it represents the real vision of the students.

5 Conclusion

Thanks to the questionnaire carried out, it was possible to find information and answers to the research questions.

1) What kind of perception do Ticino's high school students have of the future?

It seems clear from the data collected that high school students are inclined to focus their actions on the consequences for the future. School is in fact designed in this way, what you learn today will serve you tomorrow. It is therefore important that this concordance of approach is present to ensure the proper and effective functioning of schooling. However, the future that students envisage for themselves is not completely defined. Few have any certainty about their plans and what they want to do in the future, an awareness that is gradually being created. As the years go by, high school students are able to define their goals more clearly. I think this is an important factor that underlines the importance of a varied and multi-faceted curriculum. A future orientation is positively correlated with academic performance, especially if the focus is on distant goals, so the correlation also exists in reverse. However, it is not possible with this research to derive information indicating the type of motivation that drives high school students to complete their school career. However, it is possible to observe that there are significant differences between those who failed a year and those who did not. The perception of the importance and usefulness of school is less in those who have failed and have an attitude a little more based on the present and tend to consider less the future consequences of their actions. However, the difference between the two CFC values remains important and indicates a propensity towards the future for both categories. The young high school students have a pessimistic vision, dictated above all by a certain apprehension in reaching the desired scholastic results: apprehension probably connected and caused by the importance given to these results to reach their future goals. The value remains however questionable, as explained in the discussion. In any case, the results of the first question "What is your perception of the future?" remain only slightly optimistic, which leaves a bitter taste in the mouth given the young age of the participants. I find that a reflection on this result should be made. Future research should investigate how much and how the consideration of the future can really influence learning and how much it is actually part of the students' motivations and stimuli. As far as the future of physical activity is concerned, it can be said that sport will ideally retain the same importance in their imaginations as it does now. However, the score is positive since, on a scale of 7, the average is 5.5 and less than 10 % of the students scored below 4.

2a) What kind of motivation drives pupils during physic education lessons?

Physical education is not perceived by all students in the same way; motivations and stimuli are different. Indeed, the average value for the statement "I love gym" is 4.32, but there are also some 1's and 7's. In fact, 32.4 % rank physical education as one of the 3 subjects they like most, 45.7 % as a medium subject and the remaining 21.9 % as one of the subjects they like least. Appreciation is a fundamental factor that determines and is determined by students' motivation as well as their perception of usefulness. Sixty per cent of high school students are more motivated by intrinsic than extrinsic motivation while for the remaining 40 % the opposite is true. In fact, 34.76 % of high school students would tend not to attend physical education if it were not a compulsory subject. This behaviour can be related to enjoyment and other intrinsic stimuli as well as to the perceived usefulness of the subject, which seems to have a particularly important influence. Extrinsic motivations do not seem to have a significant influence.

2b) Is there a perceived usefulness of the subject?

In general, in the Ticino high schools, a certain usefulness is perceived in physical education, given that the average score is 3.34 (SD ± 1.3). Those who appreciate the subject more also tend to find it more useful, but with the data obtained it is not possible to define the type of perceived usefulness. However, some gaps can be noted. Students struggle to detect a transfer of learning. They do not understand how what they are learning in physical education can somehow be useful outside the school context or in other areas of their lives. Indeed, Castelli et al.'s (2015) research indicated that physical education ranks 11th out of 15 in importance according to high school students. Even in this research the results suggest a perceived importance below average. It could be that this characteristic causes demotivation in some students and results in a low appreciation of the subject. As a result, teaching loses its value and becomes less effective. It becomes even more difficult for the teacher to engage the pupils and achieve the goals. Perceiving the usefulness of what is being done has a positive influence on motivation, especially intrinsic motivation, ensuring greater pleasure and better transmission of the values taught. Allowing space and provoking reflection on what is being done could increase understanding and improve the consideration of physical education.

The aim of a teacher should be to make students appreciate their subject as much as possible. Obviously it would be utopian to expect all the pupils in the class to appreciate the subject in a highly intrinsic way.

At this point, raising awareness of its usefulness and relating it to future needs and requirements may increase interest and succeed in involving even those students who are less stimulated. The proof is in the responses from those who do not appreciate physical education but who, if attendance were not compulsory, would participate anyway. These pupils demonstrated a greater understanding of the usefulness of the subject than their peers who, despite enjoying it, would not participate voluntarily.

In conclusion, I think that if the school and the students have the same goals, teaching is more effective and better results are achieved.

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7 Attachment

7.1 Full questionnaire

Questionario per lavoro di Master - Moduli Google [PDF]

7.2 Cantonal authorisation for research

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Repubblica e Cantone Ticino
Dipartimento dell'educazione, della cultura e dello sport

Divisione della scuola
6501 Bellinzona

Egregio signor
Leonardo Brönnimann

Via e-mail

Bellinzona
11 marzo 2021

Ns. riferimento ls
Vs. riferimento

Ricerca: Tesi di Master - Students' perception of the future and the consequences for school and physical education

Egregio signor Brönnimann,

abbiamo ricevuto la sua richiesta di poter svolgere una ricerca nelle nostre scuole e la ringraziamo.

La Divisione della scuola, sentito il parere della Sezione delle scuole medie superiori (SIMS), ha esaminato la ricerca e ha deciso di autorizzarla.

Per poter trasmettere il link agli studenti, la SIMS ritiene opportuno coinvolgere il presidente del gruppo cantonale dei docenti di educazione fisica, signor Del Don, che chiederà ai suoi docenti di inoltrare la sua lettera con il sondaggio agli allievi. Riteniamo che questa sia la procedura più indicata.

La invitiamo inoltre, terminata la ricerca a inviarci una copia della pubblicazione.

Cordialmente

Lara Sosio

Collaboratrice scientifica

Copia:
- Sezione delle scuole medie superiori