RESEARCH
www.commprac.com
ISSN 1462 2815

INFLUENCE OF SELF-ESTEEM IN ACADEMIC SUCCESS IN MOROCCAN ELEMENTARY SCHOOL STUDENTS

Imane Jaghror [1]*, Miloud Chakit [2], Hafida Jaghror [3], A.O.T. Ahami [4], Zakaria Abidli [5] and Leila Bikjdaouene [6]

[1,2,3,4,5,6] Biology and Health Laboratory, Faculty of Sciences, Ibn Tofail University, Kenitra, Morocco. *Corresponding Author Email: jaghror.imane@uit.ac.ma

DOI: 10.5281/zenodo.11184010

Abstract

Self-esteem is a fundamental feeling to survive in an increasingly competitive society, it is a personal feeling that is built from childhood and evolves throughout life. This work aims to assess self-esteem and its impact on school performance with a sample of 205 students, aged between 8 and 14 years with an average age of 10.37 years, enrolled at the Charrif El Idrissi School in Kenitra. To achieve this goal, we used the Toulouse Self-Esteem Scale (E.T.E.S) to assess self-esteem and the overall average obtained at the end of the school year to assess academic performance. As a first step, we studied these dimensions according to the sex and age of the students. The results show that girls perform better (X2=17.6 and p0. 005) and more engaged in schooling, while boys have better self-esteem (F = 4.670; p-value = 0.032). They also show that the older the students, the less successful they perform (r = -0.24. P-value = 0.000). In a second step, the correlation analysis showed that self-esteem has a positive effect on school performance (r= 0.407; p0. 01). In summary, self-esteem is a determining factor in school performance of the students of Charif El Idrissi School, Kenitra.

Keywords: Self-Esteem – School Performance - Child – Academic Success - Morocco.

1. INTRODUCTION

Self-esteem is considered a fundamental feeling to survive in an increasingly competitive society, it is a personal feeling that is built from childhood and evolves throughout life.

In Morocco, we rarely talk about self-esteem in a child, especially in school, we only talk about demotivation and loss of interest, this often occurs following repeated failures, the child compares himself unfavorably to his peers whom he considers more prepared for success, better and more competent, He realizes his failures and begins to tell himself that no matter how hard he tries, he will fail. The child has convinced himself that he is helpless in the face of the difficulties he is facing. Self-esteem is built through the successes and words of encouragement, while it is demolished by negative comments generally and when a child feels helpless and unable to succeed, that he is already confronted with repeated failures and that he feels punished, reprimanded or humiliated for his failures.

Indeed, researchers in personality psychology have always shown a keen interest in the relationship between self-esteem and its impact on cognitive performance and academic performance. Some children have learning difficulties for emotional reasons that often affect their cognitive potential.

It is therefore in this line that this research fits since it revolves around the self-esteem and academic performance of students at the Charrif El-Idrisi School in Kenitra.

Self-esteem is judged by many authors as a central concept in understanding human beings. According to them, it is an essential beacon of what the individual is and the

image he has of himself. Several very important authors in modern psychology have questioned this concept.

ROSENBERG (1979) [1], designates self-esteem "as the attitude that each individual has towards himself, the respect and consideration that he has for himself, as well as the feeling that he has of his own value as a person ". He distinguishes an external self-esteem, which depends on the situations and the view of others, from an internal self-esteem more resistant to change, and which would correspond to a more global evaluation of oneself.

HARTER (1988) [2] retains the idea that a crucial determinant of self-esteem would be of a social nature. Self-esteem is gradually built up from repeated experiences in one's physical and social environment. The young person extracts from the result of his actions and the feedback from different social agents' representations that play a major role in his conception of himself and his functioning, BANDURA (1997, 1982) [3].

Self-esteem is intimately linked to the nature of one's first interactions; the younger child is particularly sensitive to the gaze of his parents HARTER (1998) [4]. In addition to being a source of motivation, an adult's approval provides the child with information on his performance and reflects a more or less favorable image of himself that he internalizes with age. With the advent of critical thinking, the young person would internalize the norms of success and failure valued by their social environment (ex: parents and peers) and use them, in addition to social reinforcement, to assess their own skills in different areas of life.

According to BRESSOUX and PANSU (2003) [5] define self-esteem as being "linked to the value of the knowledge we used to describe ourselves. It reflects the judgments we make about ourselves and often relates to other cognitive representations we have of ourselves as what we could become or what we would like to be.

For Coopersmith (1984) [6], "Self-esteem is the expression of approval or disapproval of oneself. It indicates to what extent an individual believes himself to be capable, valid, important. It is a subjective experience that translates both verbally and into meaningful behaviors."

OUABRAYRI (1997)[7] Self-esteem represents the set of attitudes and feelings that the subject experiences with regard to himself and which guide him in his reactions as well as in his organized behavior.

Through all these definitions, we notice that self-esteem has an evaluative component and an affective component. It is related to the emotions or the feelings that an individual experiences towards himself on his performances and his capacities. Moreover, it is built in particular thanks to the judgments and opinions, that others have about us.

According to SILLAMY (1983) [8], performance is "the implementation of an aptitude and the result of this action from which one can deduce the possibilities of a subject in a particular domain. Thus, he distinguishes the level of evaluation, sports performance, and performance in a psychological test of school performance.

SEME (2002) [9] distinguishes between two kinds of school performance: "global performance and partial performance. The first concerns all the subjects in class, and it is obtained thanks to the weighted averages of the different class subjects. The

second refers to a particular subject category or discipline and represents the average obtained on this subject. We are going to consider school performance in its overall aspect, because we do not intend to categorize self-esteem, according to the different subjects studied in class.

In all cases, whether global or partial, we speak of good performance and bad performance.

The notions of good or bad performance refer to the concepts of academic success or failure.

For VILLARS (1972) [10], school failure is a manifestation of maladjustment of schoolwork which results in a school delay evaluated in the school year. This delay is the result of a comparison between the level which should have been that of the pupil considered because of his age and that of his actual school level.

AVANZINI (1977) [11], thinks that being in a situation of failure, either the pupil whose performances are lower than those required by the official level of his class or his course or the standards of the examination he is preparing, or therefore the one who is placed in classes, sections of little esteem. »

According to ALLES-JARDEL and al. (2001) [12] “failure is decreed in relation to a standard and academic success could be measured as the achievement of an academic objective within a time considered normal. Any pupil who obtains a bad mark, who repeats his class, who fails the exams or who is assigned to a section other than that to which he aspired, is a failure from the point of view of the school institution. »

As can be seen, these definitions vary from author to author according to the failure criteria considered. In this work, there is academic failure when the student has not achieved his overall average, or success, if he has achieved that average.

3. Link between self-esteem and academic performance

For some authors PIERREHUMBERT and al. (1998) [13]; MAINTIER and ALAPHILIPPE (2007) [14]; HARTER (1998) [4]; LAMIA (1998) [15], there is also a link between self-esteem and academic performance.

Entry into learning difficulties, throughout the school curriculum, seems to influence students' perceptions of themselves, MAINTIER and ALAPHILIPPE (2007) [14]. In the same way, that failure at school can affect self-esteem, HARTER (1998) [4].

Poor self-esteem can make it difficult to "good social adaptation to the school environment and lead the child to a situation of academic difficulty which can lead to school failure" LAMIA (1998) [15].

One of the other links between a child in success or in difficulty at school would be the knowledge he would have of himself. For this, we will focus on the work of TOCZEK & MARTINOT (2004) [16] and MARTINOT (2001) [17]. According to these authors, students who have entered the school system for several years have school self-knowledge organized in the form of a self-scheme.

The self- diagrams are the result of a long elaboration and develop thanks to personal experiences in highly familiar and recurring situations TOCZEK & MARTINOT (2004) [16]. Thus, academic success depends on past performance, but also on current self-

knowledge. Pupils with a good academic level possess a self-scheme of academic success and have an excellent organization in memory of conceptions of success.

On the other hand, students with academic difficulties do not have a self-scheme of academic success MARTINOT (2001) [17]. Faced with difficulties, students who do not spontaneously access self-conceptions of success may develop uncertainties about their abilities, reduce their efforts or completely abandon MARTINOT (2001) [17].

We can see that for these authors, there is a link between self-esteem and academic success or failure. In current study, the objective was to evaluate the relationship between to assess the impact of self-esteem on school performance in elementary School in Kenitra, Morocco.

2. MATERIALS AND METHODS

2.1 Participants

A sample of 205 pupils includes 108 boys and 97 girls (figure 1) continuing their studies at different levels from the 3rd to the 6th year of primary school, from the Charrif El Idrissi primary school in Kenitra, aged 8 to 14 years with an average of age of 10.37.

2.2 Instruments

We have chosen to use Nathalie OUBRAYRIE's Toulouse Self-Esteem Scale (ETES) to measure self-esteem, and the general average obtained at the end of the 2017/2018 school year to assess performance school.

To implement this project, we first had to translate the test used into Arabic so that it was compatible with the Moroccan context and to assess its reliability since it was its first use in Morocco.

2.2.1 The Toulouse scale of self-esteem

We selected the Toulouse Self-Esteem Scale (E.T.E.S) for children and adolescents developed by OUBRAYRIE, SAFONT and al. (1991) [18]; OUBRAYRIE, DE LEONARDIS and SAFONT (1994) [19].

The E.T.E.S was chosen because it is easy to use and analyze, but also for its practicality during examinations with children, especially in schools.

This test consists of a questionnaire of 60 statements that the child validates or invalidates according to a scale ranging from 1 to 5 (“1 = completely disagree; 5 = “completely agree”).

These statements correspond to 5 domains: the EMOTIONAL SELF, the SOCIAL SELF, the SCHOOL SELF, the PHYSICAL SELF and the FUTURE or PROJECTIVE SELF.

These components are tested by 12 items each arranged randomly (they are presented mixed for the child who completes the questionnaire). For example, the Items corresponding to the EMOTIONAL SELF = 1, 6, 11, 16, 18, 21, 31, 35, 40, 44, 49, and 54.

It is the sum of the scores obtained for each of the items that makes it possible to calculate the General Self-Esteem Score. This can therefore be analyzed in 5 partial scores according to the totals obtained for the emotional self, the social self, the

physical self, the school self and the projective self. These scores are an indication of the value or devaluation of the subject's self-image. Each sub-dimension is counted out of 60 and the General Score is given out of 300.

In the items, a distinction is made between those formulated positively and those formulated negatively. For example, item 6 “I feel good about myself” is positive. And item 1 “I get angry easily” is negative. When the item is positive, the answer is reported directly. For example, to item 6, if the subject answers 1, we score 1 and if he answers 5, we score 5. When the item is negative, it is a inverted item, so it is necessary to report the inverse response. For example, to item 1, if the subject answers 1, we score his answer 5, if he answered 2, we score 4 … if he answers 5, we score his answer 1.

2.2.2 School Performance

School performance is determined according to the average of the marks obtained by the student at the end of the school year during the evaluations in all the subjects of the class (French, Arabic, mathematics, scientific awakening, geography and history, physics of education, and Islamic education). We have an average of five out of ten. Students who have obtained good results are that whose end-of-year average is greater than or equal to five out of ten. On the other hand, those who obtained an annual average lower than five out of ten are classified in the category of poor academic results.

2.3 Procedure

One day was allocated to each level where we carried out the test in seven classes: one from 3rd year of primary education (3rd YPE), two from 4rd YPE, two 5rd YPE and two 6rd YPE. The execution time is half an hour and the process was collective.

We distributed the papers; we asked the students to write their names (to facilitate the task of taking notes) then we explained the subject of the test as well as its instructions. The privacy and the rights of participants were also discussed.

We read the questions one by one to maintain consistency and ensure that the students answer the questions with the help of the class teacher.

After completing the course of the test for all classes we sorted out the invalid papers (those that ticks several boxes of the same question), then we moved on to the stage of taking data using the Excel program.

We waited until the end of the 2017/2018 school year to obtain the general grades of the students who will serve as school performance. Finally, we arrived at the stage of analysis of the results, which was done using the SPSS software.

We waited until the end of the 2017/2018 school year to obtain the general grades of the students who will serve as school performance. Finally, we came to the stage of analyzing the results that were made using the SPSS software.

3. RESULTS

3.1 Distribution of Students by Gender

As shown in figure 1, we see that the study population is made up of 205 students, of whom 53% (n=108) are male and are in the majority compared to the female sex, which represents 47% (n=97). The sex ratio is therefore unbalanced; it is equal to 1.11 in favor of the male sex.

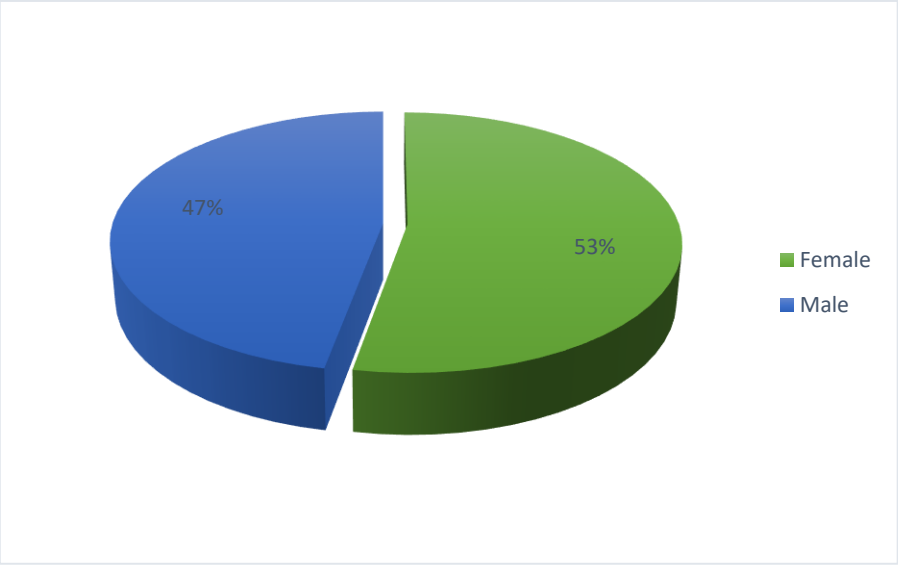

Figure 1: Breakdown of Students Surveyed by Gender

3.2 Distribution of Students According to their Ages

According to the descriptive analyses, we note that the average age of the pupils is 10.37 ±1.42 years, with a minimum age of 8 years and a maximum age of 14 years (figure 2). Shape parameters such as the asymmetrical coefficient and the flattening coefficient confirmed the Gaussian aspect of this population.

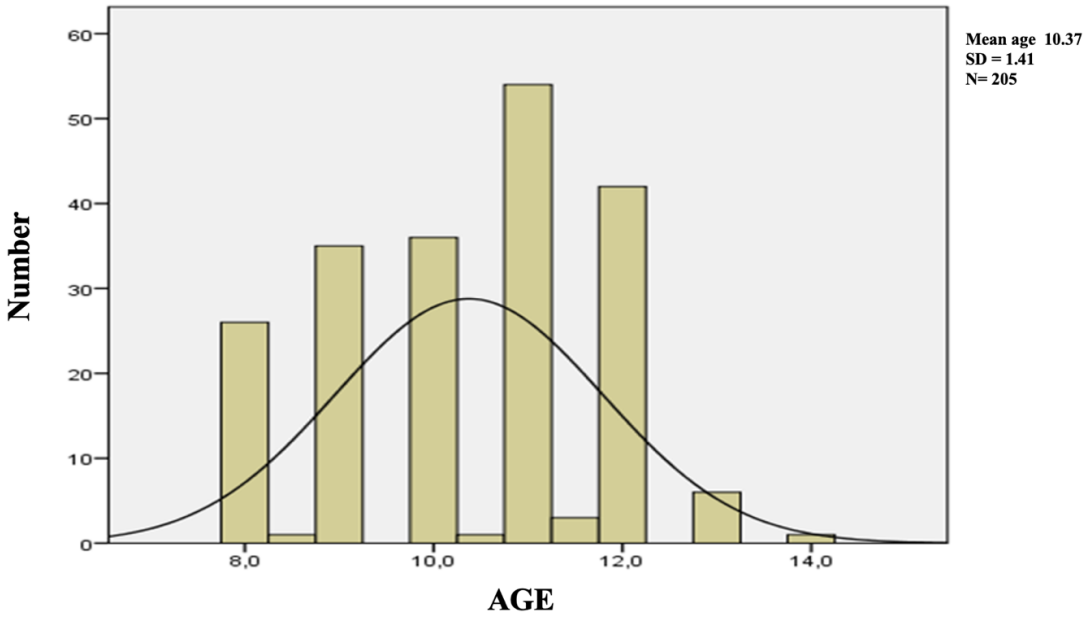

Figure 2: Distribution of children interviewed by age.

3.3 Distribution of Students According to General Grades

The figure 3 shows the distribution of students according to their general averages obtained during the 2017/2018 school year. Average good (n=55), 29% are medium (n=40) and 10% are poor (n=14).

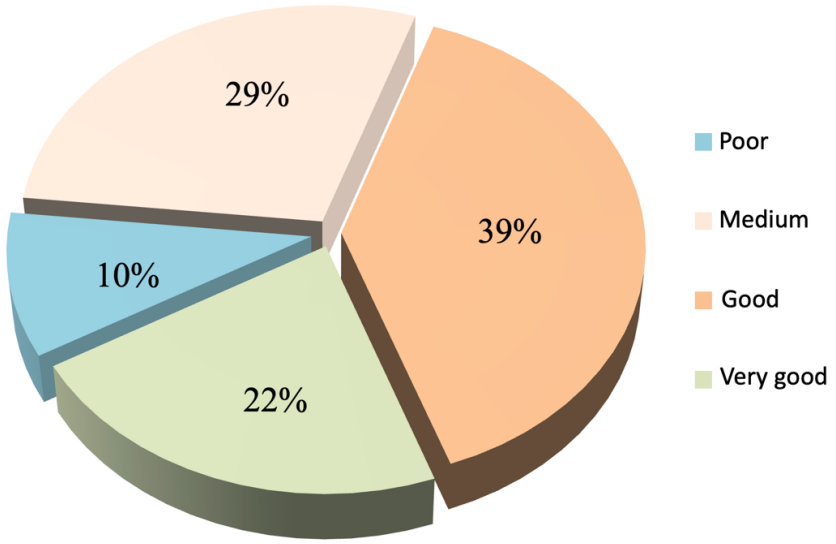

Figure 3: Distribution of Students According to their General Averages

3.4 The loyalty of the Toulouse self-esteem scale

To verify the internal consistency of the different classification criteria of the Toulouse self-esteem scale questionnaire, we deduced the compatibility of the component questions by looking for the Cronbach index. Indeed, the calculated indices have proved to be very important and this for: The emotional self (α=0.70), the social self (α=0.74), the school self (α=0.80), the physical self (α=0.68), and the future or projective self (α = 0.72).

Based on these results, we can already provide the internal reliability of our questionnaire adapted to the Moroccan context.

3.5 Descriptive Analysis

3.5.1 The Toulouse Self-esteem Scale (E.T.E.S)

Descriptive analyzes (mean, median and standard deviation, etc.) were carried out on the overall scores relating to the different areas of the Toulouse self-esteem scale to describe the general trends of our population. Similarly, the normality of the distributions of the different variables was verified through Skewness asymmetry constants and Kurtosis. An empirical distribution approaches that of the normal law when the skewness coefficient is between -1 and 1 while the kurtosis coefficient is between -3 and 3.

Table 1: Descriptive Analysis of the Average Scores of the Different Dimensions of the E.T.E.S of our Population

	N	Avg	Er sd	Med	Mini	Maxi	Asy	Kurt	E-type
School self	205	41.54	0,53	42,0	20	60	-0,247	-0,17	7,63
Physical self	205	41.31	0,49	41,0	20	56	-0,411	-0,212	7,09
Project self	205	41.06	0,41	42,0	24	56	-0,228	-0,12	5,95
Social self	205	40.69	0,40	41,0	24	55	-0,411	0,050	5,86
Emotional self	205	42.02	0,46	43,0	16	58	-0,450	0,64	6,77

Avg: Average; Er sd: Standard Error; Med: Median; Min: Minimum value; Max: Maximum value; Asy: Asymmetry; Kurt: Kurtosis; E-standard: Standard deviation; N: total.

According to the data in Table 1, for the five dimensions of the E.T.E.S. We have a Skewness coefficient between -1 and 1 and a Kurtosis coefficient between -3 and 3, which qualifies our distribution as a Gaussian distribution.

Table 1 summarizes the different scores obtained for the main dimensions of self-esteem. We note an average score of the school self of 41.54 (Standard deviation=7.63) with a minimum of 20 and a maximum of 60. Concerning the physical self, the average is 41.1 (standard deviation = 7.09).

For the projective self, the average is 41.06 (standard deviation = 5.95), with a minimum of 24, a maximum of 56.

For the social self, the average score is 40.69 (standard deviation = 5.68) with a minimum of 24, a maximum of 55.

For the emotional self, the average score is 42.02 (standard deviation = 6.77) with a minimum of 16, a maximum of 58.

Following the descriptive analysis, it is possible to declare that all the variables from the (E.T.E.S.) meet the conditions of the normal distribution.

3.6 Bivariate Analysis

The Pearson correlation (Figure 2) reveals that self-esteem is negatively correlated with age (r = -0.24. P-value =0.000), young children have scores of l self-esteem higher than older children).

Table 2: Correlation between Self-esteem and Age

	Self-esteem	
Age	**R**	**p-value**
	-0.24	0,000*

r: Correlation coefficient; Significant correlation at 5% risk

Regarding the work schedule, it should be noted that among the caregivers in-group (1) who reported adhering to regular work hours, a significant proportion of 63.15% experienced high levels of stress. Conversely, among the respondents in-group (2), 79.49% displayed a high level of stress (table 2).

Table 3 shows the correlation between the scores obtained for self-esteem and gender. The ANOVA test shows that there is a significance difference in the self-esteem scores between females and males (F = 4.670; p-value = 0.032) with a slightly higher average for males than for females.

Table 3: Correlation between Mean Self-esteem Scores and Gender

	Self-esteem score			
		Mean	**F**	**p-value**
Gender	Females	123.77	4.670	0,032
	Males	123.92		

Table 4 and Figure 4 determine the relationship between gender and the means of the five dimensions according to the E.T.E.S. we take note that:

- The average of male physical self-esteem is slightly higher than female with 41.591133 against 41.4705882, indeed, the ANOVA shows that there is a significant between the two averages (F= 8.78 and p value =0.003).
- The average school self-esteem in girls (41.29) is slightly higher than in boys (41.27) with a p value = 0.30.

Table 4: Representation of Two Sexes According to the Five Dimensions of Self-Esteem

Sex	Average physical self-esteem	Average school self-esteem	Average Social self-esteem	Average emotional self-esteem	Average projective self-esteem
Male	41,591133	41,27093596	41,0591133	40,67980296	42,03448276
Female	41,4705882	41,29411765	41,00980392	40,66666667	41,99019608
P value	0,003	0,307	0,000	0,762	0,395

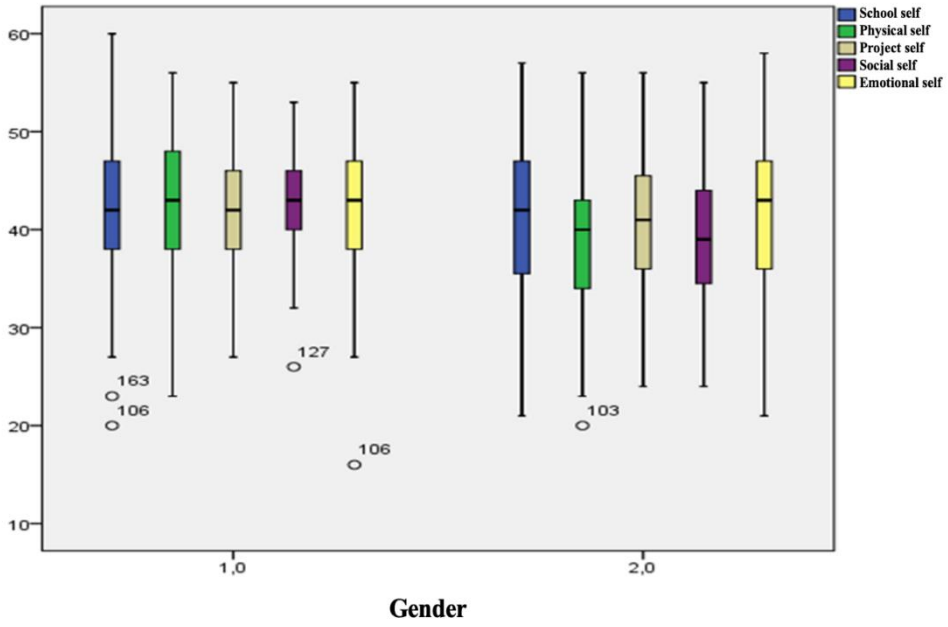

Figure 4: Box-plot Representation of the two sexes according to the five dimensions of the E.T.E.S. (2= male gender ,1= female gender)

4. DISCUSSION

With regard to the variation of the self-concept according to age, we observe a decrease in the scores of global self-esteem as well as of its five components emotional self, academic self, physical self, social self and projective self. During the years of schooling, in other words the more the children get older the more their self-esteem scores decrease. This is consistent with a study done to explore the relationship between age and the development of self-concept in children aged 5, 6, 7 and 8 years, which indicated a positive increase in self-concept during the first three years and then a decrease in the fourth year (HEROUX L. and FARRELL M.) [20].

On the other hand, as we have noticed in other studies, the empirical data report varied results, such as: little change, a decrease or an increase in the level of self-esteem. The tendency to vary self-concept scores with age, especially in young children, can be explained according to WYLIE (1979) [21] by several factors, including the influence of an increasing ability to understand questions and to make different responses. Indeed, she suggests, among other possible explanations, that self-perception becomes more and more accurate as intellectual abilities develop.

Our results show that girls have lower self-esteem than boys, this is consistent with all studies on the issue of self-esteem in different countries, which have shown that girls present in childhood and in adolescence) lower self-esteem than boys, if we focus on overall self-esteem. As is the case in the studies of BLOCK and ROBINS (1993) [22] in the United States, of HARPER and MARSHALL (1991) [23] in Australia, or ALSAKER and OLWENS (1993) [24] in Norway. These results are also obtained in France for example by BARIAUD and BOURCET (1994) [25] or DA FONSECA, and al. (2008) [26].

Moreover, BARIAUD and BOURCET (1994) [25] evoke cultural stereotypes valuing masculinity in Western societies to explain this better self-evaluation on the part of boys.

However, if these differences between girls and boys are obvious when we focus specifically on overall self-esteem, HARTER (1988) [2] showed that these results could be relativized when we consider attaching to the different areas of adolescent life, suggesting that the "superiority" of boys is not expressed at all levels BARIAUD & BOURCET (1994) [25].

For example, we find a better self-evaluation of boys in terms of athletic skills and in terms of physical appearance RODRIGUEZ-TOME and al. (1993) [27]; RODRIGUEZ-TOME and BARIAUD (1980); BOUFFARD and al. (2006) [29] ; HARTER (1988) [2] , while girls show better self-esteem in the area of social skills, academics, in the area relating to conduct/morality and in terms of deep friendships BOUFFARD and al. (2006) [29].

Regarding school performance by gender, our results indicate that girls perform better than boys. In agreement with our results obtained in the present research, CHOUINARD et al. (2007) [30] reveal in research that girls are generally more interested in school than boys and have more positive attitudes towards school than boys. These differences are also marked at the level of motivation towards school subjects. However, although girls generally state that they are more inclined than boys to exert effort and to persevere in the accomplishment of school tasks [31-33]. This difference could be explained by stereotypes related to different beliefs concerning the success of girls and boys, RUBLE & MARTIN (1998) [34, 35].

Regarding age, the results of the present study show that the older the student, the more his academic performance decreases, this is in agreement with longitudinal studies which have indicated that academic motivation gradually declines over the course of the year. The course of the students [36] differently depending on the subjects at the start of school. This decrease in motivation will then spread to all subjects as you progress through schooling. This drop in motivation can be explained by the onset of adolescence and the changes that accompany it around the age of 12-13 [37].

Our results show that academic performance is positively influenced by overall self-esteem. This means that students with high self-esteem have good academic performance, while students with low self-esteem scores have low overall school averages. This is in line with many works in developmental psychology which tend to show relationships between self-image generally operationalized by self-esteem and school failure [38-41]. There is indeed every reason to affirm that a devalued self-image can cause a decrease in school investment. According to COMPAS (1985) and PERRON (1990) [44,45], a pupil in academic success evaluates himself in a more flattering way than a pupil who presents difficulties and this, on personal parameters not necessarily directly related to the school situation [42,43]. The perceived self of the successful student is more in tune with the ideal self (what the subject would like to be), while there is disharmony in the struggling student.

Several studies [40] have shown that students who fail at school, placed in specialized classes, paradoxically tend to overestimate their abilities, especially academically, while those who have remained in the normal cycle are strongly devalued academically. On the other hand, the situation of failure of students in specialized classes being institutionally recognized, their general self-esteem is greatly depreciated [44, 45].

In terms of gender identity, other research also shows the tendency of adolescent girls to devalue themselves, compared to boys, regardless of their level of academic achievement [23].

A study emphasizes the link between educational style and self-esteem. According to the results obtained, self-esteem will be all the more positive if in the educational style, negotiation, relationship; communication and encouragement in decision-making are perceived. On the other hand, negative self-esteem will be characteristic of an educational style where control, constraint, weak communication between parents and child, and the encouragement of accommodation will be predominant [46,47].

The results align with those found by Le BASTARD-LANDRIER (2005) [43], demonstrating that overestimated learners outperform other students in terms of academic performance, taking into account other similar factors. Another study [44] demonstrated a significant and positive correlation between "self-confidence" and "course preparedness index" with academic performance [48].

Why does low self-esteem lead to poor academic performance? One of the main functions of self-esteem appears to be compensation for weaknesses in academic performance. According to Rosenberg (1982), an individual “will be willing to devalue the qualities for which he considers himself bad and to value the things for which he considers himself good.” Therefore, the use of compensatory strategies by academically low individuals may help explain why they generally have higher self-esteem than their academically performing peers [4].

This study has several limitations. Only cross-sectional data were used, self-esteem assessments were based exclusively on self-reports, and academic achievement was estimated retrospectively. This was not at the time when opinions on self-esteem were asked, but mainly on the basis of the scores of the diagnostic assessment, which takes place at the beginning of the year [49].

5. CONCLUSION

In summary, self-esteem is a determining factor in school performance of the students of Charif El Idrissi School, Kenitra, Morocco. Furthermore, the moderating role of the learning environment was not considered and no evidence was presented to what extent the collected data is generalizable to other countries. Further efforts must be taking by the education personal director, supervisor, teacher) in order to improve the self-esteem in students

References

1) Meskini N, Chakit M, Lamtai M, Ftih Z, El aameri M, Sfendla A, Ouahidi ML. Relationship Between Academic Achievement And Depressive Syndrome Among Middle School Students In Kenitra. Community Practitioner. 2024;21(3):308-318

2) EL-Hamaoui A, Chakit M, Saidi H, Fitah I, Khadmaoui A. Psychological assessment of quality of life in a Moroccan population with chronic disease. International Journal of Chemical and Biochemical Sciences. 2023; 24 (6):121–129.

3) Fitah I, Chakit M, El Kadiri M, Brikat S, El Hessni A, Mesfioui A. (2023). The evaluation of the social functioning of schizophrenia patients followed up in the health center My El Hassan of Kenitra, Morocco. Egypt J Neurol Psychiatry Neurosurg. 59 (1):125. https://doi.org/10.1186/s41983-023-00714-7.

4) ROSENBERG, M., 1965. Society and the adolescent self-image. Princeton University Press, New Jersey. Rosenberg, M., 1979. Conceiving the self. Basic Books, New York.

5) El-Hamaoui A, Chakit M, Saidi H, Fitah I, Khadmaoui A. Evaluation Of Social Support Among Persistent Chronic Disease Patients Followed Up At Provincial Hospital Of Kenitra, Morocco. Community Practitioner. 2024; 21(4):255-263.

6) WYLIE RC. The Self Concept: Theory andResearch on SelectedTopics. 1979; 2, Lincoln: University of Nebraska Press.

7) Block J, Robins RW. A longitudinal study of consistency and change in self-esteem from early adolescence to early adulthood. Child Development. 1993; 64, 903-923.

8) Alsaker FD, Olwens D. Global self-evaluations and perceived instability of self in early adolescence: A cohort longitudinal study. Scandinavian Journal of Psychology. 1993; 2:123-145.

9) DA Fonseca D, Cury F, Fakra E, Rufo M, Poinso F, Bounoua L, Huguet P. Implicit theories of intelligence and IQ test performance in adolescents with generalized anxiety disorder. Journal of Behaviour Therapy and Research. 2008; 46:529-536.

10) Rodriguez-Tomé H, Bariaud F, Cohen-zardi MF, Delmas C, Jeanvoine B, Szylagi P. The effects of pubertal changes on body image during adolescence. Journal of Early Adolescence. 1993; 10: 159-175.

11) Goodenow C, Grady KE. The Relationship of School Belonging and Friends' Values to Academic Motivation among Urban Adolescent Students. Journal of Experimental Education. 1993; 62(1), 60-71.

12) Ryan AM, Patrick H. The classroom social environment and changes in adolescents' motivation and engagement during middle school. American Educational Research Journal. 2001; 38, 437–460.

13) Ruble DN, Martin C. Gender development. In N. Eisenberg (Ed.), Handbook of Child Psychology: Vol. 3, Personality and Social Development. New York, NY: John Wiley & Sons, Inc. 1998.

14) Brikat S, Lamtai M, Chakit M, Ibouzine-Dine L, Fitah I, Abouyaala O, Mesfioui A, El-Hessni A. Curcuma Longa Methanolic Extract and Losartan Improves Memory Impairment and Oxidative Stress induced by a High Caloric Diet in Wistar Rats. Adv. Anim. Vet. Sci. 2024; 12(4):614-623.

15) Nassiri A, Lamtai M, Berkiks I, Benmhammed H, Coulibaly M, Chakit M, Mesfioui A, El Hessni A. Age and Sex-Specific Effects of Maternal Deprivation on Memory and Oxidative Stress in the Hippocampus of Rats. International Journal of Chemical and Biochemical Sciences. 2023; 24 (6):121–129.

16) Nassiri A, Chakit M, Berkiks I, benmehammed H, Lamtai M, Chana L, Mesfioui A, El Hessni A. Sex Dimorphism of Memory Response to Long-term Effect Lipopolysaccharide Administration in Wistar Rats. International Journal of Chemical and Biochemical Sciences. 2023; 24 (5): 685–692.

17) Brikat S, Chakit M, Lamtai M, Fitah I, Abouyaala O, Mesfioui A, El-Hessni A. Effects of Curcuma longa methanolic extract and losartan on anxiety- and depression-like behaviors induced by a high caloric diet in adult female Wistar rats. International Journal of Chemical and Biochemical Sciences. 2023:24(6):886–895.

18) Nassiri A, Lamtai M, Berkiks I, Benmhammed H, Coulibaly SM, Chakit M, Ibouzine-Dine L, Mesfioui A, El-Hessni A. Age and sex dependent effects of maternal deprivation on anxiety-like and depressive-like behaviors and oxidative stress in the prefrontal cortex of rats. Adv. Anim. Vet. Sci. 2024; 12(3):457-466.

19) Kherrab I, Chakit M, Brikat S, Ibouzine-dine L, Mesfioui A, Elhessni A. Thyme Honey Supplementation Improves Memory Ability In High Fructose Treated Rats During Prepuberty And Adolescence. Community Practitioner. 2024; 21(4):264-274.

20) Bouffard T, Marcoux MF, Vezeau C, Bordeleau L. Changes in self-perceptions of competence and intrinsic motivation among elementary school children. British Journal of Educational Psychology. 2003; 73, 171-186.

21) Baataoui S, Chakit M, Boudhan M, Ouhssine M. Assessment of Vitamin D, Calcium, Cholesterol, and Phosphorus status in Obese and Overweight patients in Kenitra city (Morocco). Res J Pharm Technol. 2023; 16(7):3405–3409. https://doi.org/10.52711/0974-360X.2023.00563.

22) Baataoui S, Chakit M, Boudhan M, Ouhssine M. Effect of Vitamin D Supplementation on the Response of Phosphocalcic Metabolism in Moroccan Population. Int J Chem Biochem Sci. 2023; 24(5):770–775.

23) Lotfi S, Chakit M, Belghyti D. Correlation between VO2max, Weight status, physical exercise and academic achievement in Moroccan high school students. International Journal of Chemical and Biochemical Sciences. 2024; 25(13):373–378.

24) Chakit M, Zahir RA, Mesfioui A. Giant pyonephrosis related to nephrolithiasis in diabetes woman: A case report. Radiology Case Reports. 2024; 19(7):2625-2628.

25) HARPER JF, MARSHALL E. Adolescents Problems and their Relationship to Self-Esteem. Journal of Adolescence. 1991; 55(4), 64-70.

26) Chakit M, Aqira A, El Hessni A, Mesfioui A. Place of extracorporeal shockwave lithotripsy in the treatment of urolithiasis in the region of Gharb Chrarda Bni Hssen (Morocco). Urolithiasis. 2023; 51 (33). doi: 10.1007/s00240-023-01407-9

27) Benchelha H, Chakit M, Ahami AOT, Bikjdaouene L. Aerobic capacity, Attention and Well-Being in Obese and Normal Adolescents. Radiologia i Onkolojia. 2023; 17 (12):859–865.

28) Frey KS, Ruble DN. What children say about classroom performance: sex and grade differences in perceived competence. Child Development. 1987; 58(4):1066-1078.

29) Harter S. The perceived competence scale for children, Child Development. 1982; 53:87-97.

30) Chakit M, Aqira A, Mesfioui A. A case report of a giant bladder stone (12 × 8 cm, 610g). Radiology Case Reports. 2024; 19(3):970-973.

31) Kherrab I, Chakit M, Mesfioui A, Elhessni A. The effect of Euphorbia resinifera propolis on obesity induced by High Fructose diet in rats during prepuberty and adolescence. International Journal of Chemical and Biochemical Sciences 2024. 25(14):23–29

32) Kherrab I, Chakit M, Mesfioui A, Elhessni A. Thyme honey supplementation effects on weight status and biochemical blood parameters in High Fructose treated rats during prepuberty and adolescence. International Journal of Chemical and Biochemical Sciences. 2024; 25(13):393–398.

33) Benchelha H, Chakit M, Lotfi S, Ahami AOT, Bikjdaouene L. Perceptual and Cardiorespiratory Response to Progressive Running Test in Relation with Puberty and Weight Status. International Journal of Chemical and Biochemical Sciences. 2023; 24 (5):664–673.

34) Benchelha H, Chakit M, Mouilly M, Nadir K, Barkaoui M, Moustaine A, Elkhatir A, Ahami OTA, Bikjdaouene L. Gender and Body Mass Index Difference in Aerobic Capacity: A Study in Moroccan High School Students. International Tinnitus Journal. 2023; 27 (2):198–202. https://doi.org/10.5935/0946-5448.20230030.

35) Elkhatir A, Chakit M, Ahami AOT. Factors influencing violent behavior in football stadiums in Kenitra city (Morocco). Central European Management Journal. 2023; 31 (2):795–801. https://doi.org/10.57030/23364890.cemj.31.2.85.

36) Elkhatir A, Chakit M, Ahami AOT, Riyahi J. Spectator Violence In Moroccan Football Stadium: Prevalence And Reasons. Community Practitioner. 2024; 21(1):233-240.

37) Elkhatir A, Chakit M, Lotfi S, Ahami AOT, Riyahi J. Psychopharmacological relationship between psychoactive substances and violent behavior in Moroccan spectators: a cross sectional study. International Journal of Chemical and Biochemical Sciences. 2024; 25(16):67–74.

38) Ait Messaad S, Chakit M, Lotfi S, Belghyti D. Epidemiological investigation of intestinal parasites in children of Sale city (Morocco). Egyptian Journal of Aquatic Biology and Fisheries. 2022; 26 (6):433-438.

39) Lotfi S, Chakit M, Elkhatir A, Belghyti D. Psychoactive substances and sport performance in adolescent and young adults from Meknes city, Morocco. International Journal of Chemical and Biochemical Sciences. 2024; 25(17):1–8.

40) Chakit M, Boussekkour R, El Hessni A, Bahbiti Y, Nakache R, Mustaphi HE, Mesfioui A. Antiurolithiatic Activity of Aqueous Extract of Ziziphus lotus on Ethylene Glycol-Induced Lithiasis in Rats. Pharmacognosy Journal. 2022; 14(5):596–602. doi: 10.5530/pj.2022.14.141.

41) Chakit M, El Hessni A, Mesfioui A. Ethnobotanical Study of Plants Used for the Treatment of Urolithiasis in Morocco. Pharmacognosy Journal. 2022; 14(5):542–547. doi: 10.5530/pj.2022.14.133.

42) El Hasnaoui A, Mesfioui A, Berkiks I, Chakit M, Kribii A, Ali O, El Hessni A. Effects of the peroxisome proliferator-activated receptors alpha agonist and Cinnamon oil on obesity induced by high fructose diet. World J Pharm Res. 2015; 4(5):23–38.

43) Aiboud A, Moussaif A, El Abbadi N, Ettabia A, El Hessni A, Ouichou A, Chakit M, Mesfioui A (2014) In vitro antidermatophytic activity of Allium sativum L, Nicotiana tabacum and Cade Oil against Trichophyton rubrum. World J Pharm Res 4(1):414–423.

44) Zhang Y, Wu C, Ma J, Liu F, Shen C, Sun J, Ma Z, Hu W, Lang H. Relationship between depression and burnout among nurses in Intensive Care units at the late stage of COVID-19: a network analysis. BMC Nurs. 2024; 23(1):224.

45) Stefanova V, Farrell L, Latu I. Gender and the pandemic: Associations between caregiving, working from home, personal and career outcomes for women and men. Curr Psychol. 2023; 42, 17395–17411.

46) Eagly AH, Wood W. The origins of sex differences in human behavior: Evolved dispositions versus social roles. American Psychologist. 1999; 54(6), 408–423.

47) Maslach C, Leiter MP. The truth about burnout: How organizations cause personal stress and what to do about it. Jossey-Bass. 1997.

48) Nadir K, Chakit M, Ahami AOT, Aboussaleh Y. Correlation Between Motivation And Sociodemographic Characteristics In Middle School Students From Morocco. Community Practitioner. 2024;21(4):

49) Saidi H, Chakit M, El Hamaoui A, Bouzaboul M, Soulaymani A, Khadmaoui A. Exhaustion and Stress Levels among Nurses in Contagious Disease Services: Case of Meningitis. Community Practitioner. 2024; 21(4):