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M. Alves-Martins , F. Peixoto , M. Gouveia-  
Pereira , V. Amaral & I. Pedro

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# *Self-esteem and Academic Achievement Among Adolescents*

**M. ALVES-MARTINS, F. PEIXOTO, M. GOUVEIA-PEREIRA,  
V. AMARAL & I. PEDRO,** *Instituto Superior de Psicologia Aplicada, Lisbon, Portugal*

**ABSTRACT** *The main purpose of this research is to analyse what strategies are pursued in order to protect self-esteem when it is threatened by a negative self-evaluation of school competence. Participants were 838 secondary-school students from the seventh to the ninth grades. Data were collected using Harter's Self-Perception Profile for Adolescents, together with a Scale of Attitudes towards School. Our results show that there are significant differences between the self-esteem enjoyed by successful and unsuccessful students in the seventh grade; such differences disappear in the eighth and ninth grades. They also reveal success-related differences in domain-specific self-evaluation. We also found that students with low levels of academic achievement attribute less importance to school-related areas and reveal less favourable attitudes towards school. We discuss these results in terms of Harter's self-esteem model and Robinson and Tayler's self-esteem protection model.*

## **Introduction**

The study of self-representation in an educational context is particularly important, inasmuch as it serves as a basis for and enables us to explain students' behaviour in a wide range of situations.

Theory and research on this field has emphasised the multidimensional structure of self-representation (Harter, 1985, 1988; Marsh, 1986; Hattie, 1992; Oosterwegel & Oppenheimer, 1993; Byrne, 1996; Byrne & Gavin, 1996; Marsh & Hattie, 1996; DuBois *et al.*, 2000) and has distinguished global self-evaluation from domain-specific evaluation.

Global self-evaluation represents global characteristics of the individual, and is considered to be more stable and depending fundamentally on the support offered by significant others (Harter, 1990, 1993a; Ryan *et al.*, 1994; Bishop & Inderbitzen, 1995). Domain-specific evaluation reflects the individual sense of competence across particular domains, such as social competence or school competence, and is considered

to be more readily permeated by contextual and situational influences (Campbell & Lavelle, 1993).

Several authors (Harter, 1985, 1988, 1993a,b, 1996, 1998; Pelham & Swann, 1989; Pelham, 1995; Andrews, 1998; Dubois *et al.*, 2000) based on James (1890) definition of self-esteem, consider that global self-evaluation, which they call global self-esteem or global self-worth, is the result of the discrepancy between real domain-specific evaluation and ideal one. They state that domain-specific evaluation to which an individual attaches significance can affect global self-esteem. To support this model, Harter (1993b) shows correlation values that are relatively high ( $r = 0.70$ ) between domain-specific evaluation in important areas for the subject and self-esteem, whilst the correlation between domain-specific evaluation in areas considered to be irrelevant and self-esteem is relatively lower ( $r = 0.30$ ).

Studies that relate global self-evaluation to academic results reveal the existence of a positive relationship between the two variables (Veiga, 1987; Marsh, 1990; Shunk, 1990; Hattie, 1992; Keltikangas-Jarvinen, 1992; Eccles, 1993; Byrne, 1996), albeit one that is not totally clear. Shunk (1990) refers to a number of studies that seek to relate these variables and says that 0.30 is the average correlation found between self-esteem and academic results. In a review of 128 studies that relates self-esteem to different measures of performance, Hattie (1992) talks about correlations ranging from 0.09 to 0.39. When it comes to the relationship between academic results (operationalised as a person's overall average marks) and self-esteem, Hattie (1992) obtained an average correlation of 0.34. These results show that the relationship between self-esteem and academic results is a weak one, in which leaves much still to be explained.

One aspect that has often been forgotten in research that relates self-esteem and school achievement is the motivation to maintain or enhance positive self-evaluation (Skaalvik, 1983). In fact, some studies reveal the absence of significant differences in self-esteem when students who suffer from low academic achievement are compared with those who do not (Robinson & Tayler, 1986, 1991; Correia, 1991; Senos, 1996; Alves-Martins, 1998; Peixoto, 1998). The explanations for this lack of differences between the self-esteem felt by students with different levels of achievement normally involve self-esteem protection mechanisms that are activated when a person's self-esteem is threatened.

Robinson and Tayler's model (1986, 1991) offers an explanation for the way in which self-esteem is protected. Basing themselves on the theory of social identity and applying it to the maintenance of self-esteem in situations involving low academic achievement, they offer a model according to which students deal with the threat posed by low academic achievement by organising themselves around an anti-institutional culture that attaches value precisely to 'being bad' at school. Peer groups can play a preponderant role in this reorganisation of values, doing so via affiliative mechanisms that lead to a high level of identification with the group in question (Robinson & Tayler, 1986, 1991; Senos, 1992, 1997).

As Harter (1993a, 1998) suggests, another possible way of maintaining self-esteem at acceptable levels (and one which does not lead to the costs of the previous method—the creation of a scholastic counter-culture necessarily implies the creation of a conflictual dimension to the situation) involves a reorganisation of the student's domain-specific evaluation, whereby he/she reduces his/her investment in those areas that represent a threat to his/her self-esteem and invests in others that are potentially more rewarding. In this way, students with poor results at school are able to protect their self-esteem by

reducing their investment in the academic field and investing in other domains in which they perform well, such as interpersonal relations or sports. In a previous work (Alves-Martins & Peixoto, 2000) have found that ninth grade low achievers present high perceived competence in areas not related to school and depreciate those that are related to school.

## Hypotheses

The first aim of this study was to find out whether there are differences between the self-esteem felt by adolescents in the seventh, eighth and ninth grades with high levels of academic achievement and that felt by those with low levels. Several studies have shown that students with low levels of academic achievement develop mechanisms to protect their self-esteem and thus maintain it at acceptable levels. We established our first hypothesis on the basis of these studies: there are no differences between the self-esteem felt by students with high levels of academic achievement and those with low levels in the seventh, eighth and ninth grades (Hypothesis 1).

Our second aim was to identify the strategies pursued by adolescents with low levels of academic achievement in order to protect their self-esteem when it is threatened by a negative self-evaluation in relation to School Competence. Harter (1993a) says that in order to protect their self-esteem, adolescents with a poor self-evaluation in a given area attach importance to other areas in which they consider themselves to be competent. At the same time, Robinson and Tayler (1986, 1991) consider that students with low levels of academic achievement can protect their self-esteem by attaching importance to a group culture that contradicts that of the school and in which they value anti-school behaviour and attitudes. On the basis of these studies we have established the following hypotheses:

Students with high levels of academic achievement make a more positive self-evaluation in academic areas than students with low levels of academic achievement, who in turn evaluate themselves more positively in areas that are not related to school, such as areas involving interpersonal aspects and/or the athletic competence area (Hypothesis 2).

Students with high levels of academic achievement attach greater importance to the academic areas than do their fellows with low levels of academic achievement (Hypothesis 3).

Students with high levels of academic achievement possess a more positive attitude towards school than do those with low levels (Hypothesis 4).

## Methods

### *Participants*

Participants were 838 students (429 girls and 409 boys) in the seventh, eighth and ninth grade classes of two Portuguese schools. They ranged from 13 to 19 years old, with an average age of 14. The latter age group also contained the highest percentage of students (31.7%).

As far as achievement is concerned (defined as whether or not a given student has ever had to repeat a grade), we find that 35.4% of the students in the sample have already been held back at least a year during their scholastic career.

Exactly like me	More or less like me			More or less like me	Exactly like me
<input type="checkbox"/>	<input type="checkbox"/>	Some young people do their school work really well	BUT	Other young people don't do their school work really well	<input type="checkbox"/> <input type="checkbox"/>

FIG. 1. One of the items on the school competence sub-scale of the self-perception profile.

Tasks and Procedure

Susan Harter's Self-Perception Profile for Adolescents (as adapted to Portugal by Peixoto *et al.*, 1997) was used to collect data related to global self-esteem and to domain-specific evaluation.

The Attitude towards School Scale was constructed on the basis of Robinson and Tayler's (1991) scale of attitudes towards school and school-related activities.

*Susan Harter's Self-Perception Profile for Adolescents.* This scale consists of two parts: the Self-Perception Profile and the Importance Scale.

The Self-Perception Profile is composed of 32 items divided up between eight sub-scales, seven of which are intended to assess specific areas of the respondents' self-evaluation (School Competence, Social Acceptance, Athletic Competence, Physical Appearance, Romantic Appeal, Behaviour and Close Relationship), while one is designed to assess global self-esteem. In the Portuguese version the Self-Perception Profile presents Cronbach's alpha ranging from 0.71 to 0.89.

The Importance Scale is made up of 14 items, two for each of the specific domains.

In both the Self-Perception Profile and the Importance Scale, each item describes two different types of young people. The responding adolescent is first of all asked to identify him/herself with one of the two groups, and then to say whether this is 'Exactly' like me or 'More or Less' like me (Figs 1 and 2).

The different items were rated from 1 to 4, where 1 indicates a low level of self-evaluation or of importance attached to the category, while 4 indicates a high level.

*The Attitude towards School Scale.* This scale is composed of 21 items, which are intended to assess attitudes in relation to types of behaviour in a school context.

As with the Self-Perception Profile, each item describes two different groups of

Exactly like me	More or less like me			More or less like me	Exactly like me
<input type="checkbox"/>	<input type="checkbox"/>	Some young people think that being good at school isn't that important	BUT	Other young people think that being good at school is important	<input type="checkbox"/> <input type="checkbox"/>

FIG. 2. One of the items on the school competence sub-scale of the importance scale.

Exactly like me	More or less like me				More or less like me	Exactly like me
<input type="checkbox"/>	<input type="checkbox"/>	Some students are interested in school work	BUT	Other students are not interested in school work	<input type="checkbox"/>	<input type="checkbox"/>

FIG. 3. One of the items on the attitudes towards school scale.

young people. Each adolescent is first asked to identify him/herself with one of them and then to say whether this is 'Exactly' or 'More or Less' like me (Fig. 3).

These items were also rated from 1 to 4; 4 denotes types of behaviour that are compatible with school culture, while 1 indicates types that are less acceptable to the school.

In order to assess the structure of the scale, we carried out a principal component analysis followed by a varimax rotation. This enabled us to obtain two factors (one made up of six items and the other of seven), which together enabled us to explain 37.0% of the total variance. The first factor groups items that reveal types of behaviour, which are related to schoolwork. The second is made up of types of behaviour which deviate from school culture, disruptive behaviours.

The reliability of this scale as determined by Cronbach's alpha is 0.84. The reliability for each factor was equally acceptable: 0.81 for factor 1 and 0.74 for factor 2. In this way we constructed three measures with which to analyse attitudes towards school: one derived from all 13 items, and one for each factor. Each of them was calculated using the average for the respective items.

## Results

Our first hypothesis predicted that there would be no differences between the self-esteem felt by students in the seventh, eighth and ninth grades with high levels of achievement and that felt by those with low levels. An initial analysis of variance, in which we used academic achievement and the student's grade as independent variables and self-esteem as a dependent one, revealed that academic achievement has a major effect on self-esteem [ $F(1,821) = 5.68, P = 0.017$ ]. It also showed an interactive effect between academic achievement and grade [ $F(2,821) = 3.67, P = 0.026$ ]. An analysis of Fig. 4 shows that in the seventh grade, students with a low level of achievement possess a self-esteem that is considerably lower than that of students with a high level of achievement. These differences diminish in the eighth grade, while in the ninth it is the students with lower levels of achievement who possess a slightly higher degree of self-esteem. Analyses of variance for each grade show that in the seventh grade there are differences between the self-esteem enjoyed by students with high levels and those with low levels of achievement [ $F(1,242) = 8.64, P = 0.004$ ], whereas such differences do not exist in the eighth and ninth grades.

Given that the results for our first hypothesis revealed different degrees of self-esteem among students with low levels of achievement for each of the three grades, in the other hypotheses we opted to carry out separate analyses for each grade so as to be able to understand what protection mechanisms are used by each age group.

Our second hypothesis predicted that students with high levels of academic achieve-

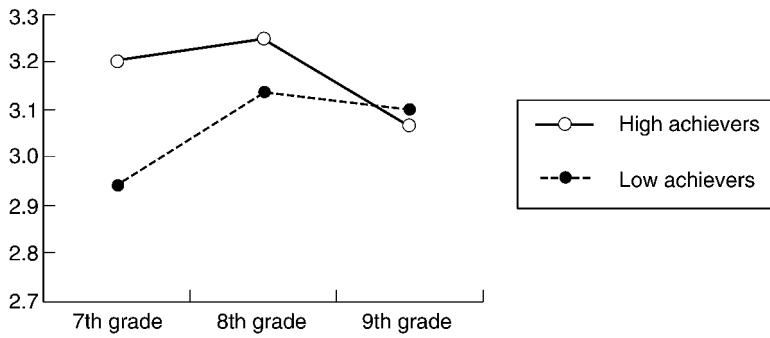


FIG. 4. Mean scales of self-esteem, per school grade and degree of academic achievement.

ment make more positive self-evaluation in academic areas than students with low levels of academic achievement, who in turn evaluate themselves more positively in areas that are not related to school, such as areas involving interpersonal aspects and/or the athletic competence area.

We carried out MANOVA's for each grade, using as dependent variables domain-specific evaluation and academic achievement as an independent variable. The results show that there are differences between the two groups in all three grades:  $F(7,213) = 5.50$ ,  $P = 0.000$  for the seventh grade;  $F(7,221) = 7.14$ ,  $P = 0.000$  for the eighth grade; and  $F(7,309) = 5.53$ ,  $p = 0.000$  for the ninth grade.

Table I sets out the mean scores and standard deviations for each grade. The results of the univariate analyses show that there are significant differences in the School Competence area (SC) between students with high and low levels of achievement in all three grades. The scores for the group of students with high levels of achievement are always greater [seventh grade— $F(1,219) = 23.46$ ,  $P = 0.000$ ; eighth grade— $F(1,227) = 19.70$ ,  $P = 0.000$ ; ninth grade— $F(1,315) = 26.04$ ,  $P = 0.000$ ]. The mean scores for the group with high levels of achievement is also higher in the Behavioural area (B), albeit the differences are only significant in the seventh and ninth grades [seventh grade— $F(1,219) = 12.95$ ,  $P = 0.000$ ; ninth grade— $F(1,315) = 4.89$ ,  $P = 0.028$ ].

When it comes to the areas that are not directly related to school, there are significant differences in terms of Romantic Appeal (RA) in the eighth grade [ $F(1,227) = 15.14$ ,  $P = 0.000$ ]: students with low levels of academic achievement reveal higher scores in this area—a tendency which is also true of the seventh and ninth grades, although in these cases the results cannot be considered to be statistically significant.

In order to determine the importance attributed to the different areas, we also carried out MANOVA's for each grade. This multivariate analysis shows that there are significant differences between the groups in the seventh grade [ $F(7,223) = 3.98$ ,  $P = 0.000$ ], but not in the eighth and ninth grades.

Table II shows that in all three grades students with high levels of achievement attribute a greater degree of importance to both School Competence (ISC) [seventh grade— $F(1,229) = 5.42$ ,  $P = 0.021$ ; eighth grade— $F(1,227) = 4.28$ ,  $P = 0.040$ ; ninth grade— $F(1,315) = 4.15$ ,  $P = 0.042$ ] and the Behavioural areas (IB) [seventh grade— $F(1,229) = 18.63$ ,  $P = 0.000$ ; eighth grade  $F(1,227) = 4.16$ ,  $P = 0.043$ ; ninth grade— $F(1,315) = 6.10$ ,  $P = 0.014$ ] than do students with low levels of achievement.

Seventh grade students with high levels of achievement attribute greater importance



TABLE I. Mean scores and standard deviations for domain-specific evaluation, per degree of academic achievement and school grade

		Academic achievement			
		High		Low	
		Mean	SD	Mean	SD
SC	7th Grade	2.65	0.659	2.26	0.462
	8th Grade	2.72	0.654	2.33	0.590
	9th Grade	2.75	0.523	2.45	0.462
SA	7th Grade	3.16	0.553	3.10	0.549
	8th Grade	3.14	0.660	3.23	0.539
	9th Grade	3.05	0.529	3.02	0.545
AC	7th Grade	2.47	0.691	2.57	0.640
	8th Grade	2.43	0.819	2.51	0.756
	9th Grade	2.65	0.640	2.61	0.684
PA	7th Grade	2.88	0.848	2.88	0.793
	8th Grade	2.71	0.817	2.85	0.860
	9th Grade	2.74	0.754	2.90	0.761
RA	7th Grade	2.56	0.593	2.70	0.648
	8th Grade	2.50	0.674	2.86	0.638
	9th Grade	2.67	0.548	2.75	0.562
B	7th Grade	2.96	0.565	2.68	0.576
	8th Grade	2.98	0.601	2.91	0.613
	9th Grade	2.87	0.470	2.74	0.534
CR	7th Grade	3.13	0.714	3.12	0.737
	8th Grade	3.17	0.755	3.22	0.660
	9th Grade	3.12	0.807	3.12	0.756

SC = school competence; SA = social acceptance; AC = athletic competence; PA = physical appearance; RA = romantic appeal; B = behaviour; CR = close relationships.

to Close Relationships (ICR) than do their fellows with low levels of achievement ( $F(1,229) = 18.41, P = 0.000$ ). In the eighth and ninth grades we find a slight tendency towards the same situation. Ninth grade students with high levels of achievement attribute greater importance to Social Acceptance (ISA) than do those with low levels of achievement [ $F(1,315) = 4.29, P = 0.039$ ].

In all three grades both groups attach less value to Athletic Competence (IAC).

Our fourth hypothesis predicted that students with high levels of achievement would possess more favourable attitudes towards school than would those with low academic achievement.

ANOVA for each grade using attitudes towards school as dependent variables and academic achievement as an independent variable, show that the achievement variable has an effect on attitudes towards school in the seventh and eighth grades: [ $F(2,222) = 25.91, P = 0.000$ ] for the seventh grade and [ $F(2,237) = 4.80, P = 0.029$ ] for the eighth grade. This effect does not appear in the ninth grade.

An analysis of Table III shows that students with high levels of achievement possess more positive attitudes towards school than do those with low levels of achievement in all three grades. It also shows that attitudes towards school become less favourable the higher the grade.

We then carried out MANOVA's for each grade using the different factors we had found on the Attitude towards School's Scale as dependent variables and academic

TABLE II. Mean scores and standard deviations for the importance attributed to the different areas, per degree of academic achievement and school grade

		Academic achievement			
		High		Low	
		Mean	SD	Mean	SD
ISC	7th Grade	3.39	0.668	3.18	0.688
	8th Grade	3.33	0.676	3.12	0.744
	9th Grade	3.22	0.683	3.05	0.720
ISA	7th Grade	2.95	0.605	2.95	0.618
	8th Grade	2.90	0.575	2.93	0.634
	9th Grade	3.11	0.553	2.96	0.658
IAC	7th Grade	2.81	0.846	2.80	0.817
	8th Grade	2.68	0.881	2.59	0.851
	9th Grade	2.72	0.757	2.69	0.828
IPA	7th Grade	2.83	0.795	2.88	0.783
	8th Grade	3.09	0.732	2.88	0.770
	9th Grade	2.86	0.731	2.74	0.766
IRA	7th Grade	3.17	0.741	3.04	0.752
	8th Grade	3.21	0.718	3.15	0.715
	9th Grade	3.35	0.676	3.24	0.705
IB	7th Grade	3.53	0.597	3.14	0.747
	8th Grade	3.55	0.615	3.37	0.678
	9th Grade	3.33	0.670	3.13	0.735
ICR	7th Grade	3.73	0.441	3.41	0.722
	8th Grade	3.76	0.416	3.72	0.476
	9th Grade	3.62	0.618	3.49	0.657

ISC = importance of school competence; ISA = importance of social acceptance; IAC = importance of athletic competence; IPA = importance of physical appearance; IRA = importance of romantic appeal; IB = importance of behaviour; ICR = importance of close relationships.

achievement as an independent variable. The results reveal that the academic achievement variable has a significant effect in the seventh and eighth grades:  $F(2,221) = 13.00$ ,  $P = 0.000$  and  $F(2,236) = 3.04$ ,  $P = 0.050$ , respectively. This effect was not present in the ninth grade.

The univariate analyses show that in the seventh grade there are significant differences between students with high and low levels of achievement as regards both factors

TABLE III. Mean scores and standard deviations for attitudes towards school, per degree of academic achievement and school grade

		Academic achievement			
		High		Low	
		Mean	SD	Mean	SD
ATS	7th Grade	3.47	0.393	3.17	0.484
	8th Grade	3.25	0.482	3.11	0.457
	9th Grade	3.08	0.394	2.99	0.505

ATS—attitude towards school.

TABLE IV. Mean scores and standard deviations for attitudes towards school for each of the factors, per degree of academic achievement and school grade

		Academic achievement			
		High		Low	
		Mean	SD	Mean	SD
ATS-F1	7th Grade	3.43	0.451	3.16	0.569
	8th Grade	3.24	0.545	3.14	0.522
	9th Grade	2.95	0.525	2.93	0.586
ATS-F2	7th Grade	3.51	0.451	3.18	0.621
	8th Grade	3.26	0.527	3.08	0.574
	9th Grade	3.18	0.461	3.05	0.585

ATS—attitude towards school, F1—Factor 1 (school work), F2—Factor 2 (disruptive behaviour).

[Factor 1— $F(1,222) = 4.59$ ,  $P = 0.000$ ; Factor 2— $F(1,222) = 21.53$ ,  $P = 0.000$ ]. In the eighth and ninth grades these differences exist in relation to Factor 2 eighth grade— $F(1,237) = 6.10$ ,  $P = 0.014$ ; ninth grade— $F(1,273) = 4.34$ ,  $P = 0.038$ ]. As we can see from an analysis of Table IV, the scores for the various factors involved in attitude towards school are always higher for the high achievement group—something that reveals a more favourable attitude towards the academic institution on their part.

## Discussion

In our first hypothesis we predicted that there would be no differences between the self-esteem felt by students with high levels and those with low levels of academic achievement in the seventh, eighth and ninth grades. We found that this was indeed true in the eighth and ninth grades, but not in the seventh, where students with low levels of achievement also suffered from lower self-esteem. It would thus appear that academic results play an important role in the self-esteem of younger adolescents. In the eighth and ninth grades our results tend towards those of other studies (Robinson & Tayler, 1986, 1991; Correia, 1991; Senos 1996; Alves-Martins, 1998; Peixoto, 1998), showing that adolescents manage to maintain their self-esteem at acceptable levels despite poor academic performance.

The second hypothesis predicted that students with high levels of academic achievement make a more positive self-evaluation in academic areas than students with low levels of academic achievement, who in turn evaluate themselves more positively in areas that are not related to school, such as areas involving interpersonal aspects and/or the Athletic Competence area

We found that self-evaluation in School Competence and Behaviour among students with high levels of achievement was superior to those enjoyed by students with low levels of achievement in all three grades.

When it came to non-school-related areas, we only found significant differences in terms of Romantic Appeal between high and low achievement students in the eighth grade, where the low-achievement students evaluate themselves more positively. It would thus seem, as Harter (1993a) says, that eighth grade students protect their self-esteem by investing in another area. It is interesting to note that the area in question is that of Romantic Appeal—an aspect which is particularly important to this age group.

Our third hypothesis predicted that students with high levels of academic achievement would attribute greater importance to the School Competence and Behavioural areas than students with low academic achievement. The results from all the grades we studied confirm this hypothesis. Thus, students with low levels of academic achievement attribute less importance to school-related areas—a tendency that can be considered to contribute to the protection of the self-esteem felt by eighth and ninth graders.

In our fourth hypothesis we stated the belief that attitudes towards school among students with high levels of academic achievement would be more positive than those felt by students with low levels of achievement. Our results confirm this hypothesis for the seventh and eighth grades. Our analysis of the factors we found in the Attitudes Towards School Scale reveal that the differences in the types of behaviour that are grouped into factor 2—in other words, disruptive forms of behaviour—are always significant. It would thus seem that in both the eighth and the ninth grades more negative attitudes towards school might help low-achievement students not to devalue themselves, despite their poor academic results. In the seventh grade this rejection of types of behaviour promoted by school culture does not appear to be sufficient to enable low-achievement students to maintain their self-esteem.

Our results indicate that academic achievement affects self-esteem among younger students, contrary to what happens among eighth and ninth grade students. Despite the fact that there are significant differences between high and low-achievement students in terms of the importance they attribute to school competence and their adoption of types of behaviour that are valued by the school, younger students would not appear to be strong enough to be able to protect their self-esteem. One of the possible explanations for these results lies in the fact that seventh grade students attach more importance to school, as we can see when we compare the importance that each of the three grades attaches to school competence and their attitude towards school. This comparison reveals a gradual fall in the value attached to school over the 3-year period. It also indicates another possible explanation, which may involve a progressive investment in other aspects of self-evaluation, such as the growing importance attributed to the area of Romantic Appeal.

Thus, it is possible to conclude that in this age group the protection of self-esteem implies the simultaneous use of various mechanisms: on the one hand, the devaluation of school-related areas of self-evaluation; and on the other, the growth of disruptive attitudes on the part of students with low levels of academic achievement. The results we obtained in relation to the eighth grade indicate that protection of self-esteem may also involve a simultaneous investment in the field of interpersonal relations with members of the opposite sex.

In future studies it would be important to control the age variable; in our study, low achievers are always older than high achievers which does not enable us to conclude if the differences founded are due to school failure or to developmental features. Longitudinal studies, in which students' academic career could be followed, would enable us better to understand self-representation and attitudes towards school dynamics.

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Correspondence: M. Alves-Martins, Instituto Superior de Psicologia Aplicada, R. Jardim do Tabaco, 34, 1149-041 Lisboa, Portugal (e-mail: mmartins@ispa.pt).

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