

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/240239351>

# Domain-specific Self-concept and Achievement Motivation in the Transition from Primary to Low Middle School

Article *in* *Educational Psychology* · March 2002

Impact Factor: 1.02 · DOI: 10.1080/01443410120115265

---

CITATIONS

46

READS

87

---

2 authors:



Mirella Zanobini

Università degli Studi di Genova

8 PUBLICATIONS 61 CITATIONS

[SEE PROFILE](#)



Maria Carmen Usai

Università degli Studi di Genova

13 PUBLICATIONS 116 CITATIONS

[SEE PROFILE](#)

## *Domain-specific Self-concept and Achievement Motivation in the Transition from Primary to Low Middle School*

**MIRELLA ZANOBINI & M. CARMEN USAI**, Department of Anthropological Sciences, University of Genova, Genova, Italy

**ABSTRACT** A longitudinal study was carried out to investigate changes in specific aspects of self-concept, motivation and school achievement, and to explore the influence of specific aspects of self-concept on other facets of the self-system after the transition from the fifth grade of primary school to the first year of lower middle school. Ninety-two pupils participated to the study. Each child was required to complete questionnaires to assess domain-specific self-concepts and motivational orientation. Results show areas of both stability and change in the transition from primary to lower middle school. A dynamic model explains relationships among domain-specific self-concepts, motivation and school grades: after the transition the role of competence self-concept increases in importance on influencing the other components of self-system.

### **Introduction**

As recently pointed out by Harter (1999), in the past few years interest in the study of self-processes has burgeoned within many branches of psychology: developmental, clinical, social and personality. Also in educational psychology different concepts related to the Self have been the focus of much research and many theories (see the classic studies by Rotter, Weiner and Bandura). In their studies of school contexts, some authors have analyzed how students' beliefs about their abilities and competence change during their school years (Harter, 1981; Eccles *et al.*, 1984; Harter *et al.*, 1992).

In particular, in the transition from primary to lower middle school pupils face changes in social relationships and environment, as well as higher learning requirements. For this reason, the impact of a normative school transition on early adolescents' self-system has recently become a focal topic in educational research (Seidman *et al.*, 1994, 1996).

The self-system is considered as a multidimensional construct, which consists of

affective, cognitive, motivational and behavioural domains. The transition *per se* may prove critical for these different domains, as it modifies aspects related to *self-esteem* and *motivation*, as well as influencing *scholastic achievement*.

#### *The Self System as a Multidimensional Construct*

Different authors have defined beliefs about the self in several ways and used different scales to measure this construct (Anderman & Maher, 1994). Many of them have referred to *self-esteem* as the affective aspects of the construct (e.g. Seidman *et al.*, 1994), while others (McPhail & Stone, 1995) have suggested subsuming both affective and cognitive components under one term: *self-concept*. An analysis comparing three self-concept and two self-esteem scales showed that they measure a virtually identical construct (Crain & Bracken, 1994). From this point of view, a definition of self-concept involves both feelings and knowledge about one's own skills, abilities, appearance, and social acceptability (Bourcet, 1998).

In this paper, we refer alternately to self-concept and self-esteem, depending on the term used by the different authors. However, the construct we refer to subsumes evaluative and descriptive components of the self and has a multidimensional nature (Marsh, 1989; Bracken, 1992; Rosenberg *et al.*, 1995; Measelle *et al.*, 1998).

From this point of view, self-concept is a hierarchical construct which can be divided into different academic and non-academic components (Shavelson *et al.*, 1976; Marsh, 1989). Marsh and colleagues (Marsh & Shavelson, 1985; Marsh, 1989) claimed that self-concept cannot be adequately understood if multidimensionality is ignored (see also Delugach *et al.*, 1992). Many authors have made a distinction between global self-concept and specific self-concepts. The latter reflect people's evaluation of how well they perform in certain aspects of their lives. Most likely these evaluations vary significantly across contextual domains, as reflected by the well-known construct of 'working self-concept' (Marcus & Kunda, 1986).

Rosenberg *et al.* (1995) claimed that global and specific self-esteem are different in both nature and consequence. They are interrelated but not interchangeable. Global self-esteem is defined as the attitude toward an object (the Self) as a totality. On the other hand, specific self-esteem is an attitude toward a specific facet of Self. Global self-esteem is mostly affective in nature and tends to be associated with overall psychological well-being. Specific self-esteem (i.e. academic self-esteem) appears more cognitive in nature and tends to be more relevant to behavioural outcomes (in this specific case, school performance). Furthermore, specific self-concept is more context dependent than global self-concept and is therefore less stable (Crain & Bracken, 1994; Harter, 1999). For these reasons, different specific aspects of self-concept, rather than the global construct, are considered. Bracken *et al.* in their hierarchical model evaluate six domain-specific self-concepts: academic, social, physical, competence, affect and family self-concepts (Bracken, 1992; Crain & Bracken, 1994). Academic self-concept concerns the pupil's academic performance; social self-concept refers to interpersonal relationships; physical self-concept concerns both physical appearance and physical ability; competence self-concept is related to successful behaviours within the environment; finally, affect and family self-concepts refer respectively to emotional reactions and to the family situation.

As pointed out previously, variables connected to motivation and particularly to *achievement motivation* appear to play a key role in the study of the self-processes that drive and facilitate school learning (Dweck, 1986).

Deci *et al.* (1991) and Corbière (1997) emphasised the importance of the presence/absence of motivation (especially intrinsic motivation) in determining school performance. Motivation also may be considered and evaluated as a non-unitary construct. It differs in terms of the internal/external dimension (Vallerand *et al.* 1992). Motivation is internal or intrinsic when students are intrinsically motivated to learn and engage in educational activities ('I go to school because I like learning new things'). Conversely, motivation is external or extrinsic when the learning process is just a way of obtaining other benefits, such as social success or other kinds of rewards ('I go to school to get good marks or to get a better job in the future').

The correlations between educational affect and motivational orientation that emerged in the study by Harter *et al.* (1992) suggest that intrinsic and extrinsic motivation are separate dimensions, rather than the extremes of a continuum (Corbière, 1997). General positive affect towards school is associated with an intrinsic motivational orientation, but not with extrinsic motivation. On the other hand, specific anxiety about school performance is related to extrinsic, but not to intrinsic motivational orientation.

#### *Studies about the Transition*

Numerous studies showed a decline in students' grade-point average after school transition. There can be two explanations for this change. The first takes into account the higher level of learning required by the teachers (Simmons & Blyth, 1987; Seidman *et al.*, 1994). The second is that middle school students are more performance oriented than fifth grade pupils (Anderman & Midgley, 1997). When students are performance orientated, they work harder in order to *demonstrate* their skills. However, task-orientated students (such as elementary school students) work in order to *improve* their competencies. This is connected to a more positive attitude towards learning and to the use of effective learning strategies. As was pointed out earlier, many researchers (Anderman & Maehr, 1994; Wigfield & Eccles, 1994) maintain that *self-esteem* and *self-concept* decrease during early adolescence as a result of both individual development and changes in home and school environments (see Eccles & Midgley, 1989 for a review; Proctor & Choi, 1994 for results pointing in the opposite direction).

Even beliefs concerning specific abilities (i.e. academic performance and social abilities) become more negative immediately after the transition (Eccles *et al.*, 1984; Harter, 1981; Harter *et al.*, 1992; Wigfield & Eccles, 1994).

The explanations that the authors gave for these results are two-fold. On the one hand, there are changes in the way students judge their own competence. Young children seem to over-estimate their competence, while early adolescents appear to be more realistic. On the other hand, factors associated with the new school environment may influence students' beliefs about their own competencies. Our hypothesis is that there are some other aspects of domain-specific self-concept besides the academic self-concept which are sensitive to the changes brought about by transitions. In particular, the competence self-concept which relates to behaviours oriented to environmental control is probably the most affected by a change of school (and environment). Furthermore, as competence self-concept concerns the behaviour in a number of situations and at different times (and can thus be considered the most pervasive domain-specific self-concept) it will probably influence the other domain-specific self-concepts.

Moreover, compared to primary school, the educational environment of middle

school often fails to keep up students' motivation (Anderman & Maehr, 1994; Butler, 1999). In lower middle school there is greater emphasis on discipline and teacher control, together with a less personal teacher/pupil relationship. In addition, students have fewer opportunities to make decisions, choose activities and manage their own learning process (Anderman & Maehr, 1994). Corbière (1997) considered the consequent lack of motivation (amotivation) as the best predictor of academic failure.

In addition to a general decline in motivation, a shift from a predominantly intrinsic to a more extrinsic motivational orientation was ascertained over a period of 6 years, from third grade to ninth grade, particularly between sixth grade and seventh grade (Harter, 1981). This can be explained by the self-determination theory. This theory (Ryan & Grolnick, 1986; Deci *et al.*, 1991) maintains that social-contextual factors influence intrinsic motivation and, consequently, academic performance. Central to this theory is the idea that only social contexts that support people's autonomy are able to promote intrinsic motivation. Thus, a more control-orientated educational environment has a significant negative effect on students' motivation and self-determination. To sum up, a number of studies revealed that following the transition from primary to low middle school, pupils immediately become more negative about school and about themselves, more anxious about their performance and less intrinsically motivated.

Nevertheless, a number of questions remain to be answered. One concerns what changes in self-concept and motivation remain after an initial period of adaptation in the new school environment. In addition, the connections between specific self-concepts (not only the academic one), different aspects of motivation and school grades in the transition seems to have been only partially explored. There is little agreement in the literature about the nature and the direction of the reciprocal influences between these variables. Low self-esteem has often been cited as a possible cause of poor school performance. Other studies draw different conclusions, ruling out a significant correlation between academic achievement and global self-esteem in favour of a correlation limited to the academic self-concept (Harter, 1983; Rosenberg *et al.*, 1995; Bandura *et al.*, 1996; Corbière, 1997; Rosati & Vio, 1997).

As far as motivation is concerned, Harter *et al.* (1992) emphasised the impact of environmental changes on perceptions of competence, which in turn influences motivational orientation. The authors proposed a possible alternative interpretation: environmental changes, with their increasing focus on external evaluation, may have an initial impact on motivational orientation and increase extrinsic motivation; extrinsic motivation, however, may lead to more objective self-evaluation, which would undermine the perceived competence of the less competent students. They underlined that the relationship between perception of competence and motivation is reciprocal in nature. However, the most likely causal scenario is one in which changes in perceived competence affect changes in motivation, which in turn further affect perceived competence.

Finally, the environmental changes pointed out by a number of researchers are perhaps less pronounced in the present Italian school system. For example, the subject specialisation and variety of teachers that characterise middle schools (Seidman *et al.*, 1994) have been typical of Italian primary schools for almost 10 years. In this kind of school organisation the effects of the transition found in other cultural contexts are perhaps to some extent reduced.

We carried out a longitudinal study in two stages: the first one at the end of primary school and the second in the second half of the first year of lower middle school.

The aims of this study were three-fold:

- to explore changes in specific aspects of self-concept, aspects of motivation and school achievement after the transition from the fifth grade of primary school to the first year of lower middle school;
- to highlight the main links between single characteristics of self-concept, aspects of motivation and school achievement, and their evolution at the two school levels;
- to identify longitudinally which different components of self-concept and motivation have most effect on academic achievement.

In particular, the following hypothesis can be advanced:

1. We hypothesise a decrease in final school grades. Also we expect a falling-off in self-concept, limited however to those aspects directly affected by the transition to a more controlled educational setting, namely the academic self-concept and the self-concept related to environmental control competence (competence self-concept). In addition, we predict an increase in amotivation and extrinsic motivation along with a decline in self-determined, intrinsic motivation.
2. We expect significant correlations between school grades and the following variables at both school levels: positive with academic self-concept, competence self-concept and intrinsic motivation, negative with amotivation. Moreover, we hypothesise that school grades correlate significantly with extrinsic motivation in lower middle school.
3. We hypothesise a significant influence of competence self-concept on other facets of the self-system (i.e. academic self-concept, different aspects of motivation), which in turn directly influence academic performance. Furthermore, some possible changes in these causal relationships are expected after the transition, in the direction of a stronger effect of competence self-concept on determining both academic self-concept and motivation.

## **Methods**

### *Participants*

The initial sample was composed of 95 fifth-grade Italian children (54 boys and 41 girls) belonging to six different classes from three different primary schools located in an area of Genoa characterised by a population of low-middle socio-economic status. All these children were tested again in the second half of the first year of lower middle school (with the exception of three subjects who had moved elsewhere). Hence, the final sample was composed of 92 children belonging to 16 different classes in five Genoa lower middle schools. The first testing took place in May (T1) and the second in March (T2) of the following year.

### *Procedure*

All the questionnaires were administered individually, even where collective administration would have been a possibility. This approach was chosen in order to avoid copying and to ensure that the children gave personal, original answers. The questionnaires were administered during school time. In order to get the children acquainted with the researchers, a brief introductory interview was held, during which the children were informed about the aims of the research. They were told that they would be filling in

questionnaires about school, and that the purpose was to find out each pupil's opinions and school experiences.

#### *Instruments and Measures*

Each child was required to complete questionnaires that assess self-concept levels and learning motivation. Self-concept was gauged using the Italian version of the Multidimensional Self-Concept Scale (MSCS, Bracken 1992). This test is a 150-item self-report inventory, comprising six scales (25 items each), each of which represents a specific self-concept domain.

The validity of the MSCS construct has been described and supported in the Examiner's manual and in numerous empirical studies (e.g. Crain & Bracken, 1994; Jackson & Bracken, 1998).

It is possible to use and evaluate the instrument's six different scales independently. Bearing this fact in mind and considering the aims of our study, we decided to use only four of the six scales, namely those related to:

- social self-concept;
- competence self-concept;
- academic self-concept;
- physical self-concept.

The decision to omit the scales relating to emotion and family life was taken in the light of the sampling context and the specific objectives of the research. The study focused exclusively on factors that could be observed and modified within the school context, without taking account of the clinical aspects (such as the patterns of emotional reaction) that these last two scales are designed to gauge.

To investigate motivation in the school context, we chose the Academic Motivation Scale (AMS) by Vallerand *et al.* (1992), adopting the Italian version produced by Tressoldi & Vio (1996). Composed of 28 items, this instrument provides separate scores for extrinsic motivation, intrinsic motivation and lack of motivation (termed as 'amotivation'), thus allowing independent evaluation of each.

The final school grades have been recalibrated, as they are expressed in different ways at different school levels<sup>1</sup>. In primary school (T1), grades are expressed using letters: A = full competence, B = a good level of competence, C = a fair level of competence, D = only partial competence, E = the pupil has yet to achieve a satisfactory level of competence. By contrast, assessment in lower middle school (T2) is expressed in five levels of academic achievement: excellent, very good, good, pass and fail.

Despite their apparent similarity, the two evaluation systems do not actually match up. At T1 not one E was given in any subject, effectively reducing the scale from five to four levels. Consequently, the lower middle school grades were reduced to a four-point scale in which the extremes (4 and 1) remained the same while the intermediate grades were recalibrated as closely as possible to the grades expressed in letters. Hence, a pass was attributed 1.75 points, good 2.5 points and very good 3.25, while a fail was counted as 1 point and excellent as 4. This made it possible to compare the grades given in fifth year with those in the first year of lower middle school.

### Results and Discussion

Means and standard deviations of the MSCS, AMS sub-scales and final grades at T1 and T2 are given in Table I.

*T*-test was used to compare scores at T1 and T2. Comparison of the children's answers to the different scales brings to light areas of stability and variation in the transition from primary to lower middle school (see Table I).

According to many authors (see, e.g. Simmons & Blyth, 1987; Seidman *et al.*, 1994), grade-point averages show a significant decline after moving from one school to another. Moreover, academic self-concept scores decrease significantly in the transition from primary to lower middle school (Harter, 1981; Eccles *et al.*, 1984; Harter *et al.*, 1992; Wigfield & Eccles, 1994). The other domain-specific self-concepts remain stable during the transition: results for competence, social and physical self-concept do not change.

Contrary to our initial hypothesis, changes only occur in the academic self-concept and not in the competence self-concept. It may well be that children's competence self-concept declines temporarily following the impact with the new setting and then recovers completely in a few months, as indeed other authors have found for beliefs relating to abilities in specific activities (Wigfield & Eccles, 1994).

The results concerning intrinsic motivation are partially consistent with the hypotheses. No variation was found in extrinsic motivation and amotivation. As expected, the level of intrinsic motivation in lower middle school decreases. Somewhat paradoxically, lower middle school places greater emphasis on discipline and control at a time when early adolescents have an increasing desire for autonomy and self-determination (Eccles & Midgley, 1989; Wigfield & Eccles, 1994; Corbière, 1997).

In order to evaluate connections between dimensions of self-concept, aspects of motivation and final school grades at T1 and T2, correlations were made using Pearson's coefficient (Table II).

As hypothesised, academic and competence self-concepts at T1 correlate significantly with the final school grades, according to Harter (1983), Rosenberg *et al.* (1995) and Corbière (1997). It should be noted that these grades do not correlate with either intrinsic or extrinsic motivation, showing only a significant negative correlation with amotivation.

Intrinsic motivation shows a significant positive correlation with two MSCS subscales, namely academic and social self-concepts. By contrast, no significant correlations emerge between the results of the MSCS scales and extrinsic motivation, suggesting a very selective relationship between pleasure in studying and a positive self-concept in some dimensions. Similarly, Deci *et al.* (1981) found a positive correlation between pupils' intrinsic motivation and self-esteem.

The T2 results partially confirm those from T1. School grades correlate significantly with competence and academic self-concept scales. In particular, correlation between academic self-concept and school grades increases significantly from T1 to T2 ( $Z = 1.66$ ,  $P < 0.05$ , homogeneity of correlation coefficients test, Steel & Torrie, 1981). As to the dimension of physical and social self-concept, no direct relationships with school results emerge even in the first year of lower middle school.

Hence, contrary to our expectations school grades do not appear to correlate with the different motivational aspects at this age level either, but only with the absence of motivation. This negative correlation is stronger in T2 than in T1 ( $Z = 2.20$ ,  $P < 0.05$ ).

TABLE I. MSCS standard values, AMS sub-scales values and final grades: means, standard deviations and *t* values

	T1			T2			<i>P</i> <
	Means	SD	Means	SD	<i>t</i>	df	
Social self-concept	97.42	12.49	98.12	11.91	-0.545	91	0.588
Competence self-concept	97	12.40	95.70	12.38	1.113	91	0.270
Academic self-concept	98.41	13.46	95.83	12.72	2.153	91	0.05
Physical self-concept	97.91	10.59	96.24	10.20	1.515	91	0.134
Intrinsic motivation	63.86	10.45	58.15	11.67	4.104	91	0.001
Extrinsic motivation	61.72	11.45	61.67	12.13	0.032	91	0.975
Amotivation	7.04	4.15	7.76	4.67	-1.252	91	0.215
Final grades	3.14	0.77	2.26	0.75	4.10	91	0.001

TABLE II. Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Acad. 1	—														
2. Soc. 1	0.62**	—													
3. Comp. 1	0.74**	0.67**	—												
4. Body 1	0.53**	0.65**	0.48**	—											
5. Intr. 1	0.37**	0.29**	0.20	0.21*	—										
6. Extr. 1	0.19	0.05	0.04	0.14	0.56**	—									
7. Amot. 1	-0.12	-0.16	-0.11	-0.12	-0.18	-0.04	—								
8. Grades 1	0.50**	0.24*	0.38**	0.17	0.16	0.09	-0.33**	—							
9. Acad. 2	0.61**	0.44**	0.55**	0.43**	0.17	0.04	-0.27*	0.50**	—						
10. Soc. 2	0.36**	0.50	0.37**	0.27**	0.23*	0.11	-0.12	0.14	0.44**	—					
11. Comp. 2	0.56**	0.44**	0.59**	0.35**	0.15	0.04	-0.16	0.34**	0.78**	0.57**	—				
12. Body 2	0.15	0.30**	0.14	0.48**	0.14	0.02	-0.06	-0.07	0.48**	0.56**	0.51**	—			
13. Intr. 2	0.34**	0.23*	0.34**	0.25*	0.28**	0.16	-0.11	0.23*	0.48**	0.23*	0.51**	0.35**	—		
14. Extr. 2	0.15	0.08	0.14	0.16	0.18	0.41**	0.10	0.11	0.29**	0.33**	0.40**	0.34**	0.60**	—	
15. Amot. 2	-0.44**	-0.27*	-0.46**	-0.24*	-0.14	-0.09	-0.23*	-0.47**	-0.45**	-0.22*	-0.52**	-0.05	-0.40**	-0.22*	—
16. Grades 2	0.45**	0.25*	0.36**	0.17	0.12	-0.02	-0.38**	0.77**	0.62**	0.11	0.43**	0.06	0.17	0.08	-0.52**

Table III. Criteria provided by the model

	$\chi^2$	df	RMR	RMSEA	GFI	AGFI	PGFI	NFI	IFI	CFI
Model	24.05	25	0.067	0.00	0.95	0.89	0.43	0.95	1.00	1.00

For this age group, intrinsic motivation correlates with all the MSCS sub-scales, particularly with competence and academic self-concepts.

It should be noted that, unlike at the preceding level (T1), extrinsic motivation shows positive correlations with all the different domain-specific self-concepts, probably in response to the greater significance attributed to evaluation feedback (Wigfield & Eccles, 1994). Finally, another difference with the fifth year is that amotivation presents highly significant negative correlations with the competence and academic self-concept scales.

To summarise: a differential correlation between school grades and domain-specific self-concept emerges at both age levels, confirming the self-concept as a multidimensional construct.

Furthermore, our results point to the existence of more substantial, and generalised links between domain-specific self-concepts and motivational aspects in the older children.

In addition, our results reveal a close connection between amotivation and low scholastic achievement that increases with age. Nevertheless, unlike the findings of other researchers (Deci *et al.*, 1991; Vallerand *et al.*, 1992; Corbière, 1997), they do not reveal any direct link between intrinsic learning motivation and school grades.

In order to further investigate the causal components related to the final school grades we performed a path analysis considering the variables that correlated significantly with final school grades both at T1 and T2: competence and academic self-concept, and amotivation. We also included intrinsic motivation in the model. This variable did not significantly correlate with the final grades, but with the MSCS subscales at both age levels. The high correlation with specific self-concepts could mask a potential effect of intrinsic motivation on school grades. Furthermore, none of the other variables presented a similar pattern of correlation.

The analysis to obtain the model was conducted using Jöreskog and Sörbom's (1996) LISREL 8 program. This model tested whether the model parameters were consistent across the two stages of the study.

A covariance matrix with the 10 observed variables was used as a database for the structural analysis. The specified model was tested with standardised coefficients obtained from the ML method of estimation.

The model provided a good fit to the data on most criteria (see Table III).

The chi-square was not significant ( $P=0.52$ ), indicating that the discrepancies between the observed data and the model were statistically not significant. The standardised root mean square of the residuals (RMR) and the root mean square error of approximation (RMSEA) were relatively small, indicating that the discrepancies between the actual covariance matrix and that implied by the model were negligible (Browne & Cudeck, 1993). The goodness-of-fit index (GFI), the adjusted-goodness-of-fit index (AGFI), the normed-fit-index (NFI) and the incremental-fit-index (IFI) were all relatively high, indicating that a very high portion of the information contained in the original covariance matrix was explained by the model.

Standardised parameters estimated from the model are shown in Fig. 1.

In the hierarchical model proposed by Bracken (1992; Crain & Bracken, 1994), competence and academic self-concept are at the same level. However, behaviour orientated to environmental control are performed in many situations and at virtually any time. For this reason, we chose to indicate the competence self-concept as the construct that influences the other variables of the model. As children succeed or fail

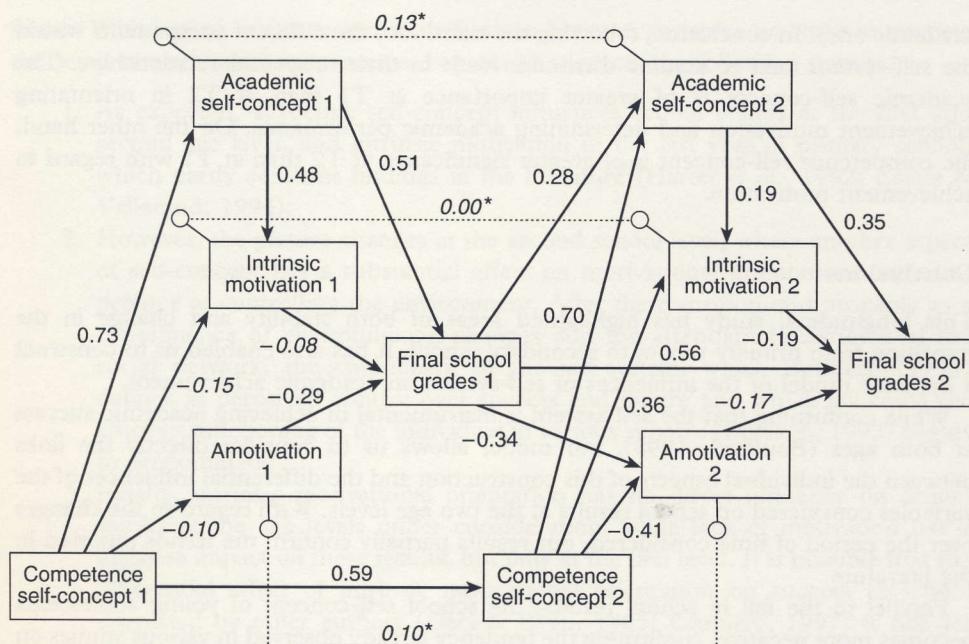


FIG. 1. The Model. (Parameters in italic are not significant). \*Parameters of covariate variables

in their attempts to function efficiently within their environment, they estimate the success of their actions and their own competence in the different fields.

The academic self-concept was positively affected by the competence self-concept, both at T1 and T2 (0.73 and 0.70, respectively). On the other hand, motivational variables were not significantly determined by the competence self-concept at T1. According to Harter *et al.* (1992), intrinsic motivation was affected by the academic self-concept: children who feel positive or negative about their academic success were, respectively, more or less intrinsically motivated.

The transition from primary to middle school brings about a change in the relationship between competence self-concept and the motivational variables (intrinsic motivation and amotivation): at T2, while high levels of competence reduce the absence of learning motivation (-0.41), they also increase the level of intrinsic motivation (0.36). The academic self-concept in turn become less important in determining intrinsic motivation (0.48 at T1 and 0.19 at T2). As expected, the environmental changes connected to the transition emphasise the importance of the competence self-concept in orienting the different aspects of the self-system.

In this model, school grades at T1 are predicted by academic self-concept (0.51) and amotivation (-0.29). Furthermore, school grades at T1 significantly affect amotivation levels and the academic self-concept at T2 (-0.34 and 0.28, respectively, see e.g. Rosenberg *et al.*, 1995). School grades at T2 are predicted by school grades at T1 (0.56) and by academic self-concept at T2 (0.35). Amotivation loses importance in affecting final school grades from T1 to T2.

The results confirm the initial hypothesis that achievement motivation at T2 is not greatly affected by the academic self-concept, but is more generally influenced by the feeling of performing successfully in the new situation. This new setting requires the children to respond to many different requests at several levels (not only at the

academic one). In conclusion, following the transition, the different components within the self-system tend to assume dissimilar loads in their reciprocal relationships. The academic self-concept is of greater importance at T1 than at T2 in orientating achievement motivation and determining academic performance. On the other hand, the competence self-concept is of greater significance at T2 than at T1 with regard to achievement motivation.

### Conclusions

This longitudinal study has highlighted areas of both stability and change in the transition from primary school to secondary school. It has also enabled us to construct a dynamic model of the influences of self-system on academic achievement.

While confirming that the self-system is instrumental in achieving academic success at both ages (Bouffard, 1998), our model allows us to consider directly the links between the individual aspects of this construction and the differential influences of the variables considered on school results at the two age levels. With regard to the changes over the period of time considered, our results partially confirm the trends reported in the literature.

Parallel to the fall in school results, the school self-concept of young adolescents becomes more negative, confirming the tendency already observed in various studies on the transition from primary to lower middle school (for a review of the literature, see Roeser & Eccles, 1998) and suggesting the presence in the older pupils of a more realistic self-concept, corresponding to the more severe assessments given by their teachers.

There is also a significant fall in intrinsic motivation among first-year secondary-school pupils. Some authors have found a link between type of motivation (self-determined or other-determined) and pupils' perception of teachers' autonomy supportiveness or control. Pupils' perceptions of teachers' autonomy supportiveness were positively associated with intrinsic motivation, although their perceptions of teacher control were positively associated with lack of motivation (Deci *et al.*, 1991). Roeser & Eccles (1998) found that the more teachers thought given individuals were good pupils, the more those pupils valued school over the course of time. In other words, the academic self-concept, which is also based on the opinion that other people have about academic performance, affects school motivation.

We have already seen how attempts to offer a global explanation for such changes have at different times focused attention on different features: either mainly on individual developmental aspects or mainly on environmental changes. As various authors (Seidman *et al.*, 1994; Wigfield *et al.*, 1996) have pointed out, over the last decade the *developmental stage-environmental fit model* has prevailed. This model tries to explain negative changes in different domains of the self-system in the light of interaction between individual and contextual components: the mismatch between the developmental needs of early adolescents and the demands of the new social environment (characterised as large, anonymous and with a greater control function over student behaviour) seems to be responsible for the decline in the self-system.

Our results fail to show, however, the increase in extrinsic motivation predicted and registered in the literature (Harter, 1981). Nevertheless, the emergence of links between this motivational orientation and the examined dimensions of self-concept suggests the growing importance with age of extrinsic motivation in the general self-system, which needs to be explored using longitudinal schemes over a longer time

frame. With regard to the reciprocal influences between variables involved in steering the pupil towards academic success, our model suggests the following points:

1. As expected, academic self-concept influences school results at the first and second age level, and intrinsic motivation in the last year of primary school, which partly confirms findings in the literature (Harter *et al.*, 1992; Losier & Vallerand, 1994);
2. However, the picture changes at the second school level, where another aspect of self-concept has a substantial effect on motivational orientation: the competence at controlling the environment. After the transition and probably as a consequence of environmental changes and the attendant breakdown of the social network, the component of the self-system, which Bouffard (1998) defines as perceived control over success and failure and which concerns the efficient functioning of the individual in various spheres (Bracken, 1992) begins to predominate;
3. Finally, intrinsic motivational orientation has no direct influence on school results at the age levels under consideration, while lack of motivation has a negative impact on these results, but only at the first level. It is possible that the differential effect of intrinsic motivational orientation on success at school suggested by other authors (Deci & Ryan, 1985; Corbière, 1997) is not yet evident at the age levels under consideration. The importance of these considerations is all the greater in view of the imminent restructuring of school levels to be introduced as part of a planned general reform of Italy's school system. While it is important that schools should make pupils aware of their limits, it is also vital that they also help them to consolidate their self-esteem. This would avoid the danger faced by students at all age levels of falling into the twin trap of low academic achievement and lack of motivation.

*Correspondence:* Mirella Zanobini, Sezione di Psicologia, DiSA, Università di Genova, Vico S. Antonio, 5/7, 16126 Genova, Italy (zanobini@nous.unige.it),

#### NOTE

- [1] While this research study was underway, the Ministry for Education overhauled the grading system used in Italy's schools.

#### REFERENCES

- Anderman, E.M., & Maehr, M.L. (1994). Motivation and schooling in the middle grades. *Review of Educational Research*, 64, 287-309.
- Anderman, E.M., & Midgley, C. (1997). Changes in achievement goal orientations, perceived academic competence, and grades across the transition to middle-level schools. *Contemporary Educational Psychology*, 22, 269-298.
- Bandura, A., Barbaranelli, C., Caprara, G., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development*, 67, 1206-1222.
- Bouffard, T. (1998). A developmental study of the relationship between reading development and the self-system. *European Journal of Psychology and Education*, XIII, 61-74.
- Bourcet, C. (1998). Self-evaluation and school adaptation in adolescence. *European Journal of Psychology of Education*, XIII, 515-527.
- Bracken, B.A. (1992). MSCE-Multidimensional Self-Concept Scale, trad. it.: TMA Test di valutazione multidimensionale dell'autostima (Trento: Edizioni Centro Studi Erickson).

- Browne, M.W., & Cudeck, R. (1993). Alternative way of assessing the model fit. In: K. A. Bollen & J. S. Long (Eds) *Testing Structural Equation Models* (pp. 136–162). Newbury Park: Sage.
- Butler, R. (1999). Information seeking and achievement motivation in middle childhood and adolescence: The role of conceptions of ability. *Development Psychology, 35*, 146–163.
- Corbière, M. (1997). Une approche multidimensionnelle de la prédiction de la réussite scolaire. *L'orientation scolaire et professionnelle, 26*, 109–135.
- Crain, R.M., & Bracken, B.A. (1994). Age, race, and gender differences in child and adolescent self-concept: Evidence from a behavioral-acquisition, context-dependent model. *School Psychology Review, 23*, 496–511.
- Deci, E.L., Schwartz, A.J., Sheinman, L., & Ryan, R.M. (1981). An instrument to assess adults' orientation toward control versus autonomy with children: Reflections on intrinsic motivation and perceived competence. *Journal of Educational Psychology, 73*, 642–650.
- Deci, R.L., & Ryan, R.M. (1985). *Intrinsic Motivation and Self-determination in Human Behavior*. New York: Plenum.
- Deci, E.L., Vallerand, R.J., Pelletier, L.G., & Ryan, R.M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist, 26*, 325–346.
- Delugach, R.R., Bracken, B.A., Bracken, M.J., & Schick, M.C. (1992). Self concept: Multidimensional construct exploration. *Psychology in the Schools, 29*, 213–224.
- Dweck, C.S. (1986). Motivational processes affecting learning. *American Psychologist, 41*, pp. 1040–1048.
- Eccles, J.S., & Midgley, C. (1989). Stage-environment fit: Developmentally appropriate classrooms for young adolescents. In: C. Ames & R. Ames (eds) *Research on Motivation in Education, Goals and Cognition*, Vol. 3 (pp. 139–186). New York: Academic Press.
- Eccles, J.S., Midgley, C., & Adler, T. (1984). Grade-related changes in the school environment: Effects on achievement motivation. In J. G. Nicholls (Ed.) *The Development of Achievement Motivation* (pp. 283–331). Greenwich: JAI.
- Harter, S. (1999). *The Construction of the Self: A developmental perspective*. New York: Guilford Press.
- Harter, S. (1981). A new self-report scale of intrinsic versus extrinsic orientation in the classroom: Motivational and informational components. *Developmental Psychology, 17*, 300–312.
- Harter, S. (1983). Developmental perspectives on self-esteem. In P. H. Mussen (Ed.) *Handbook of Child Psychology*, Vol. 4 (pp. 275–386). New York: Wiley.
- Harter, S., Whitesell, N., & Kowalski, P. (1992). Individual differences in the effects of educational transitions on young adolescents' perceptions of competence and motivational orientation. *American Educational Research Journal, 29*, 777–807.
- Jackson, L.D., & Bracken, B.A. (1998). Relationship between students' social status and global and domain specific self-concepts. *Journal of School Psychology, 36*, pp. 233–246.
- Jöreskog, K., & Sörbom, D. (1996). *Lisrel 8: User's reference guide*. Chicago: Scientific Software International.
- Losier, G.F., & Vallerand, R.J. (1994). The temporal relationship between perceived competence and self-determined motivation. *Journal of Social Psychology, 134*, 793–801.
- Marcus, H., & Kunda, Z. (1986). Stability and malleability of the self-concept. *Journal of Personality and Social Psychology, 51*, 858–866.
- Marsh, H.W. (1989). Age and sex effects in multiple dimensions of self-concept: Preadolescence to early adulthood. *Journal of Educational Psychology, 81*, 417–430.
- Marsh, H.W., & Shavelson, R.J. (1985). Self-concept: Its multifaceted, hierarchical structure. *Educational Psychologist, 20*, 107–125.
- McPhail, J.C., & Stone, C.A. (1995). The self-concept of adolescents with learning disabilities: A review of the literature and a call for theoretical elaboration. *Advances in Learning and Behavioral Disabilities, 9*, 193–226.
- Measelle, J.R., Ablow, J.C., Cowan, P.A., & Cowan, C.P. (1998). Assessing young children's views of their academic, social and emotional lives: An evaluation of the self-perception scales of the Berkeley puppet interview. *Child Development, 69*, 1556–1576.
- Proctor, T.B., & Choi, H.S. (1994). Effects of transition from elementary school to junior high school on early adolescents' self-esteem and perceived competence. *Psychology in the School, 31*, 319–327.
- Roeser, R.W., & Eccles, J.S. (1998). Adolescents' perceptions of middle school: Relation to longitudinal changes in academic and psychological adjustment. *Journal of Research on Adolescence, 8*, 123–158.

- Rosati, M., & Vio, C. (1997). Motivazione scolastica e immagine di sé *Difficoltà di apprendimento*, 3, 119–128.
- Rosenberg, M., Schooler, C., Schoenbach, C., & Rosenberg, F. (1995). Global self-esteem and specific self-esteem: different concepts, different outcomes. *American Sociological Review*, 60, 141–156.
- Ryan, R.M., & Grolnick, W.S. (1986). Origins and pawns in the classroom: Self-report and projective assessments of individual differences in children's perceptions. *Journal of Personality and Social Psychology*, 50, 550–558.
- Seidman, E., Aber, J.L., Allen, L.R., & French, S.E. (1996). The impact of the transition to high school on the self-system and perceived social context of poor urban youth. *American Journal of Community Psychology*, 24, 489–515.
- Seidman, E., Allen, L.R., Aber, J.L., Mitchell, C., & Feinman, J. (1994). The impact of school transitions in early adolescence on the self-system and perceived social context of poor urban youth. *Child Development*, 65, 507–522.
- Shavelson, R.J., Hubner, J.J., & Stanton, G.C. (1976). Validation of construct interpretations. *Review of Educational Research*, 46, 407–441.
- Simmons, R.G., & Blyth, D.A. (1987). *Moving into Adolescence: The impact of pubertal change and school context*. Hawthorn. Aldine De Gruyler.
- Steel, R.G.D., & Torrie, J.H. (1981). *Principles and Procedures of Statistics. A Biometrical Approach*. Singapore: McGraw-Hill.
- Tressoldi, P.E., & Vio, C. (1996). *Diagnosi dei disturbi dell'apprendimento scolastico*. Trento: Edizioni Centro Studi Erickson.
- Vallerand, R.J., Pelletier, L.G., Blais, M.R., Brière, N.M., Senécal, C., & Vallières, E.F. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and Psychological Measurement*, 52, pp. 1003–1017.
- Wigfield, A., & Eccles, J. (1994). Children's competence beliefs, achievement values, and general self-esteem. *Journal of Early Adolescence*, 14, 107–138.
- Wigfield, A., Eccles, J.S., & Pintrich, P.R. (1996). Development between the ages of 11 and 25. In: D.C. Berliner, & R.C. Calfee (Eds) *Handbook of Educational Psychology* (pp. 148–185). New York: Simon & Schuster Macmillan.