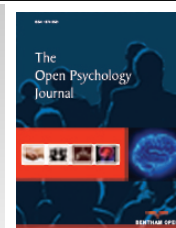




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## RESEARCH ARTICLE

# School Social Context, Students' Self-Efficacy and Satisfaction in High School

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### Abstract:

#### Background:

Several studies have focused on the relationship between context variables and self-efficacy. Among the social variables, limited attention has been given to social capital and teacher-student relationship in the school community.

#### Objective:

This study aims to explore how social capital in the school community and teacher-student relationship may influence students' self-efficacy and school satisfaction. Furthermore, is it suggested that these relations change according to school grade or transition point, *i.e.* first and final year of high school, and in relation to the student's gender.

#### Methods:

A total of number of 2,623 high school students in their first and final years filled in questionnaires in Italy. We used Structural Equation Modelling (SEM) to test an ad hoc model that aimed to assess how the school context variables considered may influence students' self-efficacy beliefs and school satisfaction.

#### Results:

Four different models were developed to categorise four different school grade sub-groups, *i.e.* first and final year students, and gender, *i.e.* boys and girls. The analyses of the results within the sub-samples reveal that social capital and teacher-student relationships influence students' self-efficacy and school satisfaction differently.

#### Conclusion:

The results remarked the importance of differentiating guidance counselling for students in relation to specific transition and gender. Further implications for relevant educational practice are discussed at the end of this article.

**Keywords:** School Self-efficacy, Student Satisfaction, Social Capital, Teacher-Student Relationship, High School, School Transitions.

## 1. INTRODUCTION

Students' transitions throughout their educational journey often represent a great challenge. Different transition points – such as the move from the middle school to the high school, and from the high school to the university – are characterised by significant social, emotional and behavioural changes [1]. The first year of high school is generally regarded as an important life transition for students, because it requires facing numerous challenges and adapting to new

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environments, such as managing academic stress and making school decision [2 - 5]. In Italy, the choice of high school is often considered a problem for children who have to choose their future career path early, *i.e.* between the ages of 13 and 14. In Italy, young people have to make significant career choices in middle school by selecting high schools that prepare them to enter a university or prepare them directly for the world of work. Indeed, the highest frequency of school dropouts<sup>1</sup> can be observed in the 9th and 10th grades, partly as a consequence of poor adjustment to the new school context [6]. Even the last year of high school<sup>2</sup> can be a great source of stress for students because of the uncertainty regarding one's career choice [7]. It is a time for reformulating personal efficacy beliefs and a time of exercising beliefs about one's agency toward newly emerging goals [8]. When dealing with personal choices in secondary school and during the transition from one education level into another, self-efficacy helps to explore people's confidence in thinking that they are able to carry out new and different types of school tasks as well as to adjust to new study contexts [4]. This dimension, therefore, is worth investigating when students are facing different transition points in their educational journey.

### 1.1. Students' Self-Efficacy

Self-efficacy is a person's perception of the ability to perform adequately in a given situation [9]. Academic self-efficacy is a person's belief in his or her own capability to perform at designated levels even in the face of academic challenges [10]. Learners' self-efficacy beliefs have a substantial impact on not only their school academic performances, but also their orientation toward a future career [11 - 13]. Besides being an important correlate of achievement, academic self-efficacy relates to effort and perseverance in learning and better adjustment to new learning situations [14]. Self-efficacy has been shown to predict students' academic achievement across academic areas and levels [15]. It has also been shown to predict students' college major and career choices [16]. Willcoxson, Cotter and Joy [17] found that the opposite of academic self-efficacy, lack of academic confidence, caused students to give up their studies. The social cognitive theory [9] provides a unifying framework for understanding psychosocial processes and interactions among individual and environmental factors. Bandura's Social Cognitive Theory [9] is based on the fundamental idea that people interact within the social context in which they are embedded.

Previous research has focused on the sources that may contribute towards self-efficacy and highlighted that the most influential source of self-efficacy was mastery experience [9]. Although much research is coherent with this result, some research has provided evidence of the power of the other sources, such as for example, social persuasion [18].

In fact individuals often depend on other people, such as their family and friends, to provide evaluative verbal feedback and appraisals about their performance.

Furthermore, some researchers have found evidence to suggest that additional sources of self-efficacy may exist [19 - 21]. Butz and Usher [21] found that mastery experience and social persuasion were the most frequently reported sources. Responses also referred to social comparative information, teacher practices and help availability. One reason for these different findings could be the influence of contextual and cultural factors on self-efficacy [22]. In high school, the social relations and the social norms concerning the school context can be considered important factors in the development of self-efficacy and school satisfaction. Moreover, the support of significant others is extremely important, and it is a protective factor for school adjustment during the transition from the middle school to the high school [23]. We will focus, in particular, on the teacher-student relationship, which can be a source of verbal and social support and social capital within the school that informs us on social relations, social norms and on the sense of belonging to the school community. This study, therefore, specifically relates to the school social influences on high school students' self-efficacy and satisfaction.

### 1.2. Student Satisfaction

Subjective satisfaction regarding life quality is a psychological issue that has been widely debated in the literature

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<sup>1</sup> Today, one in five students on average across the OECD drops out of the education system before finishing upper secondary. Italy, Greece, Iceland, Portugal, Spain and Mexico, have dropout rates of 25% or higher [3]. In Italy, the vast majority of those dropping out are from the poor regions of southern Italy (24-26%). The majority of dropouts are males who generally abandon their studies after the middle school before high school [3].

<sup>2</sup> Data on higher education dropouts worldwide suggest that approximately 30% of university students leave university during the first year of studies [3]. Nota and Soresi [4] found that in Italy roughly 30% of high school seniors remained undecided about their academic or career choice while 41% were tentatively decided. Other studies have highlighted that many Italian youths, especially women, were at risk of being in occupations or having made scholastic choices that they did not like [5].

[24 - 26]. Research on adolescents has demonstrated that satisfaction is a significant predictor of positive outcomes in a variety of life domains [27]. Student satisfaction, especially among teenagers, is particularly influenced by factors such as encouragement and support by the 'significant others', e.g. family and friends, and the sense of belonging to a given social group [28]. Student satisfaction can include various dimensions, such as school experiences, classmate relations, family relations, praise received, perceived support, autonomous decision-making and current life conditions [29]. Recent empirical studies have also demonstrated that students in their final year of high school tend to display higher levels of satisfaction as compared to those in their first year [30]. Further research based on the feedback provided by students advancing from grade 7 to grade 8 has shown that factors, such as academic success (or lack of it), teacher-student relationship and the sense of belonging to the school community, can deeply influence student satisfaction and well-being [31]. Although several studies have focused on the relationship between context variables, self-efficacy and satisfaction, limited attention has been given to social capital in school communities.

### 1.3. Social Capital In School Community

The influence of social capital on economic activities has been a significant theme in the literature for a long time. Yet, the relationship between social connectedness and school choice has not often been addressed [32]. From a socio-cultural and socio-constructivist perspective, schools can be described as 'communities of practice' in which participants are actively involved in the process of knowledge construction and learning [33]. Being part of a community of practice at school can bring about not only concrete actions that students can take part in, but also foster the sense of belonging to the school community. Bourdieu and Wacquant [34, 14] define 'social capital' as 'the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalised relationships of mutual acquaintance and recognition'. According to Putnam [35], social capital refers to the connections among individuals, including social networks and the norms of reciprocity arising from them. He defines the two most important dimensions of social capital as bridging (or inclusive) and bonding (or exclusive). Bridging social capital can create bridges among people and allow them to develop broader and more diverse relationships in their everyday lives. By contrast, bonding social capital includes networks based on people with similar characteristics, thus reinforcing exclusive identities and homogenous group development. For Putnam [35], importantly, these two forms of social capital are linked but not mutually exclusive. Some studies have investigated the influence of social capital on education. Several studies have demonstrated that social capital can have an impact on the well-being of students [36, 37]. Furthermore, it can influence their self-esteem and life satisfaction [36, 37] as well as their level of self-efficacy in technology systems [37, 38]. Few studies have instead focused on social capital and self-efficacy in school transitions.

### 1.4. Teacher-Student Relationships

Positive teacher-student relationships can influence student satisfaction regarding the psychological needs of students [39]. Students who are not regular with the studies seem to present a less positive perception of the relationship with their teachers than the other students [40]. Teacher-student relationship type would seem to be especially important for students who lack or are deficient in quality relationships in one or more other life contexts.

Birch and Ladd [41] have highlighted that teacher-student positive relationships help to convey social capital. This happens because these relationships create shared learning environments that can foster the acceptance of norms, thus favouring learning. Some studies analysed the relationship between teacher support and self-efficacy beliefs.

Garcia, Restubog, Bordia and Roxas [42] have underlined that teachers and parents influence optimism *via* increasing self-efficacy beliefs. Positive interactions between teachers and students can favour the latter's positive perception of themselves and shape students' positive attitude towards their academic future [42].

In some of these studies, self-efficacy is considered as a mediator between social variables and other dependent variables. In this article, we intend to deepen this issue by focusing on the teacher-student relationship perceived by the students.

### 1.5. Aims

Although the above literature review presents a prolific body of research that has explored different possible correlations between the relevant variables considered, a model of possible relationships between all these variables, which also takes social capital into account, has not yet been tested.

In line with those studies that highlight the presence of a positive correlation between teacher-student relationship and student satisfaction [39], we hypothesize that the teacher-student relationship could directly influence student school satisfaction (Hypothesis 1a).

Taking into account the studies that underline a positive correlation between teacher support and student self-efficacy [42], we hypothesize a possible direct influence of teacher-student relationship on self-efficacy (Hypothesis 1b). Considering the positive correlation between social capital and youth satisfaction [37, 36] we hypothesize that social capital may directly influence student school satisfaction (Hypothesis 2a).

Despite the absence of research aimed at demonstrating the presence of a relationship between social capital and student self-efficacy – and considering the fact that a direct correlation between social capital and self-efficacy has been highlighted in other specific tasks [37, 43] – we hypothesize that social capital can positively influence student academic self-efficacy (Hypothesis 2b). We specifically intend to analyse whether or not these relationships between all variables vary within the sub-samples that have been categorised according to gender (male-female) and school grade (first and final year of high school) Fig. (1).

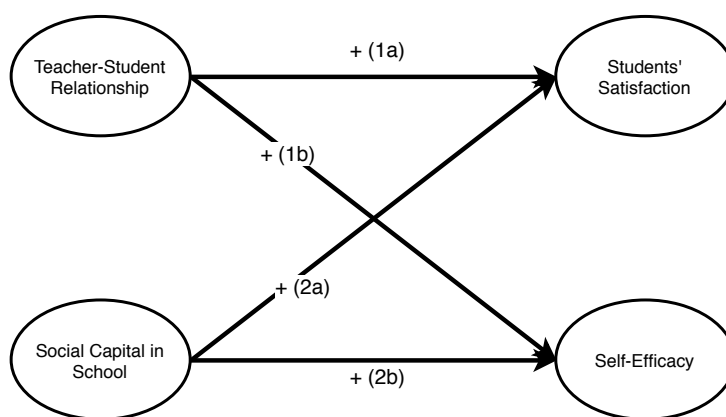


Fig. (1). Summary of the main experimental hypotheses

## 2. METHODS

### 2.1. Participants

The sample comprised 2,623 high school students who, during data collection, were all enrolled as first year students (N= 1586; 58% males; 42% females; the average age was 14.2), and final year students (N=1037; 57% males; 43% females; the average age was 18.8) in several schools in Italy. The sample was randomly selected and included both girls (N=1111; 42.36%) and boys (N=1512; 57.64%). The average age of the whole sample was 16.5 (DS = 2.3). Data collection took place from March to May 2015. The study was conducted according to the APA guidelines for ethical research in psychology [44] and the Ethics Committee of the Cagliari University approved the research.

### 2.2. Measures

In order to measure students' self-efficacy beliefs, we used Soresi and Nota's [45] questionnaire titled 'Clipper: Self-efficacy. How much confidence do I have in myself?'. The psychometric properties of the instrument are reported in the validation paper [45]. For this study, we decided to focus on the sub-scale: 'Students' confidence in their ability to carry out tasks and school activities'. We considered it to be the most adequate scale to evaluate the impact that a new school context may have on students. The four items in this scale comprise the following statements: 'I think I can learn almost everything'; 'I think I can do many things'; 'If the others got to know me well, they would say that I can do almost anything' and 'I am so confident in my abilities that sometimes I like dealing with difficult things'. The one-factor solution was replicated on our sample (Cronbach's  $\alpha$  .80, CFI=.980, TLI=.941, RMSEA=.08). Each student answered the questions according to a 5-point Likert scale (1= not at all satisfied; 5= extremely satisfied).

To evaluate students' satisfaction regarding school experience, we used a sub-scales derived from Soresi and Nota's [29] questionnaire 'Clipper: Quality of Life. My Life as a Student'. This involves providing a set of self-evaluating responses about personal satisfaction with one's school experience and level of education received. The seven items in this sub-scale include the assertions: 'I am satisfied with the school I am attending'; 'What I am learning at school will

allow me to help others'; 'I think my teachers are very committed'; 'What I am studying will certainly help me in my future job'; 'What they make me do at school is useful and important'; 'I am satisfied with what I am learning at school' and 'What I am learning now at school will help me to get a good job in future' ( $\alpha = .87$ ). Each informant answered the questions according to a 5-point Likert scale (1= not at all satisfied; 5= extremely satisfied). The psychometric requisites of the instrument are reported in Soresi and Nota [29] and the one-factor solution was replicated in our sample ( $\alpha = .88$ , CFI=.977, TLI=.966, RMSEA=.07).

In order to measure the teacher-student relationship, we adopted a scale taken from PISA, the Programme for International Student Assessment (OECD) – designed by the Organisation for Economic Co-operation and Development [3] – and obtained comparable data regarding students' success levels in 32 different countries. This scale has been recently employed [31] to assess the teacher-student relationship in secondary school, and the results have shown that the internal coherence of the items is equal to  $\alpha = .78$ .

The items in this scale comprise the following statements: 'I get along well with most of the teachers'; 'Most of my teachers really listen to what I have to say'; 'Most of my teachers really listen to what I have to say'; 'If I need extra help, I will receive it from my teachers'; 'Most of my teachers treat me fairly'. Drawing on PISA's 2000 [3] "How often do these things happen in your lessons?" sub-scale, we included two items: 'The teacher shows an interest in every student's learning' and 'The teacher helps students with their work'. The teacher-student relationship scale has been adapted to the present study to a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree), and it obtained good levels of reliability (Cronbach's  $\alpha = .80$ ). The one-factor solution was replicated in our sample ( $\alpha = .87$ , CFI=.967, TLI=.947, RMSEA=.08).

As for the evaluation of social capital in schools, we used Tomai, Rosa, Mebane, D'Acunti, Benedetti and Francescato's [46] and Calidoni and Pitzalis's [47] adaptations of Ellison, Steinfield and Lampe's [48] scale, which better fit the Italian school context. The scale proposed by Ellison *et al.* [48] was derived from previous studies that have measured students' perceived support and school networks at school [35, 49, 50]. Subsequently, it was adapted to the study of virtual communities [36], and applied to study communities of practice in schools [46] and higher education [47, 51]. The Social Capital Scale used to this end, derived from the Calidoni and Pitzalis's PCA-based scale [47], validated in samples of high school students in Italy [47]. The items are: 'Interacting with people in my school makes me feel like a part of a larger community'; 'Interacting with people in my school reminds me that everyone in the world is connected'; 'In my school Interacting with people makes me want to try new things'; 'I am willing to spend time to support my school activities'; 'I feel I am part of my school community'; 'My school is a good place to be'; 'I am interested in what goes on my school'; 'I attend parties or social gatherings where most attendees are students of my school'; 'In most ways my life at my school is close to my ideal'. The level of internal coherence regarding the bridging school community scale are Cronbach's  $\alpha = .89$ . The items designed to evaluate the experience of Bonding Community in school are: 'In my school There are several people that I trust to help solve my problems'; 'In my school there is someone I could turn to for advice about making career plans or very important decision'; 'The people I interact would be good job references for me' ( $\alpha = .79$ ). All the answers on the scale measuring social capital are based on a 5-point Likert scale whereby 1 is equal to 'strongly disagree' and 5 is equal to 'strongly agree'.

### 2.3. Data Analysis

The associations between social capital in school, teacher-student relationship, student satisfaction and self-efficacy have been analysed using Structural Equation Models (SEMs), implemented and analysed using R package lavaan v. 0.5-17 [52] for R 3.3.2 [53].

The model was fit using Robust Maximum Likelihood (MLR) estimation, testing for measurement invariance for the four groups defined by the intersection of student gender and school year (*i.e.* first-year boys, fifth-year boys, first-year girls, and fifth-year girls). In the model, both school satisfaction and self-efficacy were predicted by the teacher-student relationship and social capital in school.

The correlations between school satisfaction and self-efficacy and between teacher-student relationship and social capital in school were freely estimated ( $\alpha = .05$ ). No model refinement was carried out; the fit was evaluated for the initial model, with no modifications.

## 3. RESULTS

Descriptive statistics for each variable are reported in Table 1. Table 2 shows the correlation matrix of all the

variables.

**Table 1. Descriptive Statistics.**

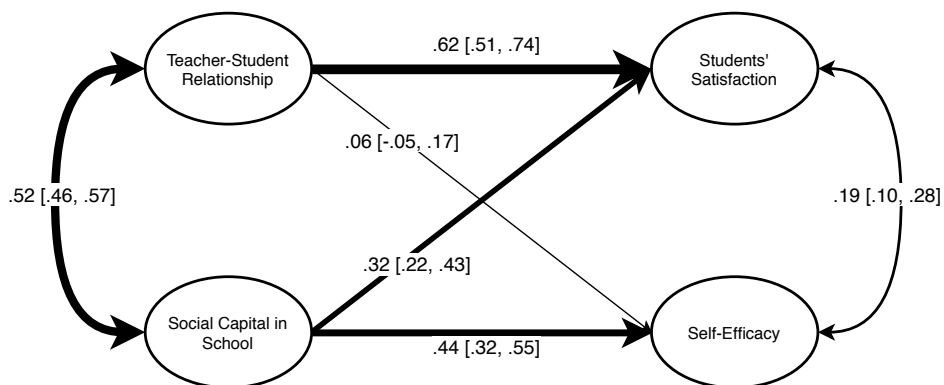
Variable	Mean	Sd	Min	Max	Skewness	Kurtosis
Teacher-Student Relationship	3.13	0.89	1	5	-0.37	-0.32
Student Satisfaction	3.46	0.89	1	5	-0.59	-0.19
Social Capital	3.01	0.78	1	5	-0.21	-0.18
Self-Efficacy	3.54	0.82	1	5	-0.48	0.26

**Table 2. Correlation Matrix.**

	Student Satisfaction	Teacher-Student Relationship	Social Capital	Self-Efficacy
Teacher-Student Relationship	0.52	-	-	-
Social Capital	0.50	0.46	-	-
Self-Efficacy	0.27	0.22	0.27	-

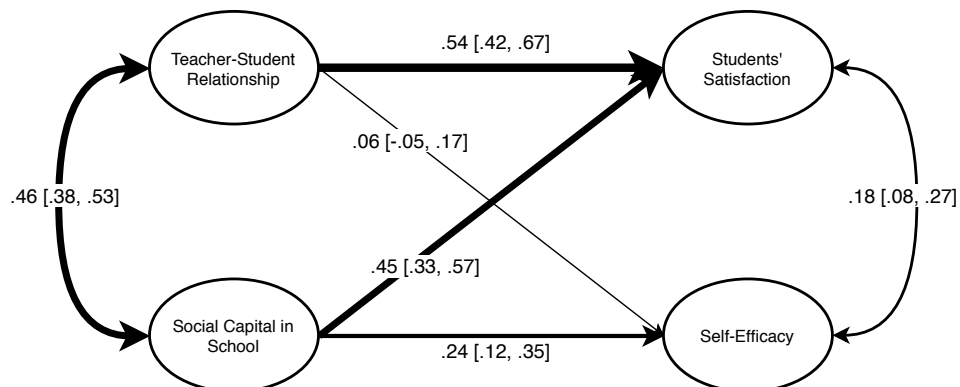
The resulting model is described with standardised parameters in Figs. (2, 3, 4, and 5). Model fit was good (CFI = .978, TLI = .969, RMSEA = .06), suggesting no need for adding or removing paths for specific groups. However, no more than configural invariance could be achieved (fit for metric invariance was CFI=.861, TLI=.856, RMSEA=.07, comparison with the configurally-invariant model significant with  $p < .001$ ).

**Boys, first year (N = 920)**



**Fig. (2).** SEM for boys (first high school year).

**Boys, fifth year (N = 592)**



**Fig. (3).** SEM for boys (final high school year).

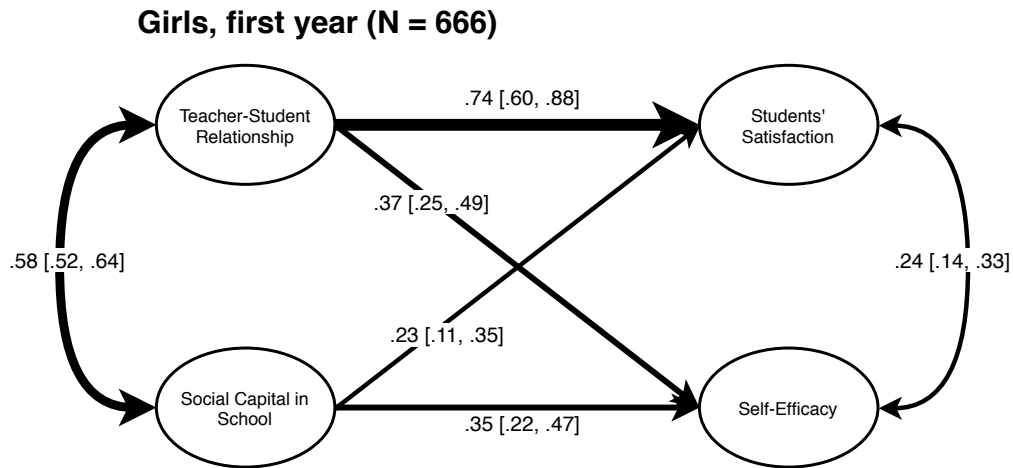


Fig. (4). SEM for girls (first high school year).

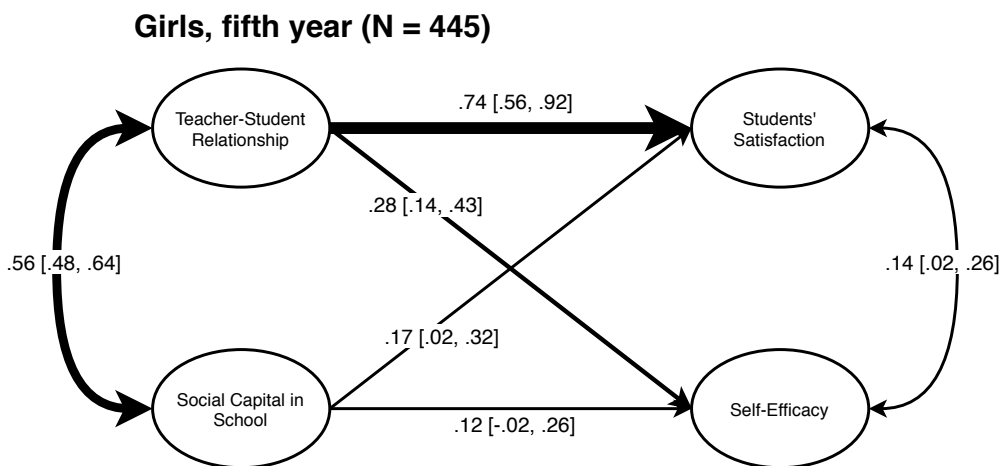


Fig. (5). SEM for girls (final high school year).

Parameters are standardised and numbers in brackets report the 95% confidence interval.

The two exogenous variables are correlated, even though the correlation is not significant ( $p = .053$ ) for fifth-year boys. The figures reported above show parameters estimated for each group. Fig. (2) refers to the boys in their first high school year, Fig. (3) to the boys in their final high school year, Fig. (4) to girls in their first high school year and (5) to girls in their final high school year. Parameters are standardised and numbers in brackets report 95% confidence interval.

Below are the main results obtained, in line with the initial hypotheses.

- In line with the first hypothesis (1a), we highlight a direct strong correlation between the teacher-student relationship and students' satisfaction: the most significant effect seems to be the direct influence that a positive teacher-student relationship has on students' satisfaction (std. B ranging from .54 to .74).
- In line with the hypothesis 2a, social capital in school proved to have a direct effect on students' satisfaction (std. B ranging from .17 to .45). It also has a positive effect (hypothesis 2b) on students' self-efficacy beliefs (std. B ranging from .12 to .44; the relationship is non-significant for final-year girls).
- Regarding hypothesis 1b, which predicted an effect of teacher-student relationship on self-efficacy, we observe that—while the model is the same for all four sub-groups—the parameter is significant only when considering girls, with a striking difference in effect sizes according to gender.

#### 4. DISCUSSION

Some of the main hypotheses put forward in this paper have been confirmed by empirical research. In line with the first hypothesis (1a) – that highlight the presence of a positive correlation between the teacher-student relationship and student satisfaction – we showed a strong direct association between teacher-student relationship and student satisfaction. This was true both in the general sample and in the sub-groups that were classified according to the grade of school or transition points (first and last years of high school), and in relation to gender. These results are in line both with the initial hypotheses and with the studies present in the literature, and they confirm that the teacher-student relationship is able to contribute a great deal to student satisfaction, regardless of gender, age and transition point.

In line with the hypothesis 2a, social capital in school proved to have a direct effect on the school satisfaction of students. Some studies have demonstrated that social capital may have a positive influence on young people's general well-being [54, 36], and in this study, we have found that social capital may directly influence students' satisfaction in their school experience. Social capital does not seem to affect the school satisfaction of final year girls. This is probably in line with the studies that underline that the search for social support among peers is particularly present among the younger girls in the first year of high school compared to those of the last year [30], who seem to derive the greatest source of scholastic satisfaction from the school results rather than from the peer relationships.

In line with the hypothesis 2b, Social capital in the school community has been shown to have a moderately direct effect on the self-efficacy of students. The analysis of the relationship between social capital and students' self-efficacy was one of our main exploratory hypotheses (hypothesis 2b).

The literature on this topic does not seem to have analysed this type of relationship between the variables yet. Social capital seems to have a direct relationship with the self-efficacy, in particular in the first year of high school.

As for final year girls, we still have to understand why social capital at school does not directly contribute to encouraging self-efficacy. This result is consistent with the previous one about the girls of the last year, but there are some considerations about social capital and the way in which the girls of the last year of high school perceive it.

Social capital at school implies taking part in the events or activities in the school. Some studies have emphasized the importance of educational activities and school guidance, especially for students in the last year of high school. The question is then how the girls in the last year of high school can perceive these activities and how they are personalised, taking into account gender differences Recently. The importance of taking into account gender and cultural differences in the final year of school, and in career decision-making, has increasingly been stressed [55 - 57].

Regarding the teacher-student relationship, it seems to have a positive effect on self-efficacy, particularly in girls.

This result can be explained in light of the gender role socialisation perspective [58], which could explain why the significance of teacher-child relationships may be different for boys and girls. The gender role perspective suggests that girls are more sensitive to the interpersonal relationship quality because they are more socially oriented [58].

It can be suggested that girls profit more from close teacher-student relationships [59]. In line with the gender role socialisation hypothesis, teacher-student relationship plays a more important role for girls' adjustment than that of boys [60 - 63]. Hence, it might be worth investigating the sub-groups of boys in their first year and subsequent others, to assess what role teachers may have in influencing their academic self-efficacy beliefs. In Italy, the phenomenon of leaving school early is a serious and highly relevant problem, particularly in southern Italy. Specifically, younger male students leave high school after the first two years (in Italy around 15–16 years) without having obtained a degree.

The teacher-student relationship can have a major importance in affecting the self-efficacy of not only girls but also boys. Why does the teacher-student relationship fail to be a source of academic self-efficacy for first and last year high school students? Answering this question certainly requires an in-depth study of these data, to understand the relationship of this source of self-efficacy with school performance and, in particular, with mastery learning. Different considerations and reflections can, however, be made along the way, in which starting from the student teacher relationship it is possible to help the students and, specifically, the boys, to feel more self-effective at school. This would certainly be a first step towards preventing school dropouts in males.

#### CONCLUSION

These results are particularly interesting considering the importance that the teacher-student relationship could have in promoting the self-efficacy of students. Previous studies have shown that educational counselling, in collaboration



with teachers, has proved to be useful in encouraging student self-efficacy [64, 65]. In recent discussions about the academic achievement of students, educational policymakers have suggested the implementation of certain teacher policies. In this regard, Barile, Donohue, Anthony *et al.* [64] found empirical evidence showing that schools with teacher reward policies, which included better student perceptions of the teaching climate, were associated with lower student dropout rates.

It is also worth mentioning that the need to create guidance counselling paths varies according to the specific transition point students find themselves in, as well as according to gender differences. Counsellors, teachers and students themselves would be well advised to think critically about the differential system of socialisation if they want effective social and career guidance. All these results must be critically examined, taking into account the limitations of the present study. These limits are mainly due to the use of self-report questionnaires and a cross-sectional research design. Furthermore, the analyses conducted should not be rigorously interpreted as supporting a causal relationship between variables. This can be better explored by using experimental research plans.

### ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

### HUMAN AND ANIMAL RIGHTS

No animals/humans were used for studies that are the basis of this research.

### CONSENT FOR PUBLICATION

We obtained the written informed consent from each subject or subject's parent.

### CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

### ACKNOWLEDGMENTS

Declared None.

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