

# School Success, Gender and Sociometric Status of Students

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## ABSTRACT

*This paper analyzes the relationship between school success, gender and sociometric status of students in higher grades of elementary school. The study included 427 students – 210 girls (49.2%) and 217 boys (50.8%). The results have confirmed the significant correlation between school success and social competence of adolescents. Gender and sociometric status affect the general school performance significantly and independently, since the interaction is not statistically important. Popular adolescents accomplish the best academic results, followed by the controversial and isolated ones, while the rejected adolescents belong to a group with the poorest educational results. Concerning the gender, the female students have a significantly better academic achievement than the male ones, while the worst school performance is achieved by the rejected male students. Rejected male students represent the riskiest part of the student population, both in terms of academic achievement and in terms of the social competence development. This points out the need to introduce well-designed and quality educational approaches and activities, with the aim of affirming the relations among the peers and improving their academic results.*

**Key words:** school success, adolescents, popularity, rejection, social competence

## Introduction

The achievement in the educational process primarily refers to GPA (grade point average). Successful accomplishment of school tasks and social adjustment of students to the school environment is usually perceived as the academic success<sup>1</sup>. The issue of success/failure is fundamental for any educational activity. Success in education is represented by the realization of the material (informative, gnostic, cognitive), functional (formative, psychomotor, operating) and educational task of teaching (quality of adopted educational values). Pedagogical meaning of success lies in the fact that the resulting sense of satisfaction strengthens the student's motivation and working enthusiasm, improves self-confidence and thus stimulates overall personality development<sup>2</sup>. There are many factors which correlate to the academic achievement: emotional maturity, intelligence, sex, motivation, quality of family relationships, quality of peer relationships, teacher's personality, teaching styles, etc.

Considering gender as one factor of the school performance, it is evident that the data found in the literature are not fully consistent. In fact, the research shows that differences in educational achievement between boys and girls are not present in all age groups, meaning that the difference among them is visible only on certain levels of

education. According to data supplied by Klarin<sup>3</sup>, girls achieve better academic results than boys only in the youngest age, whereas this difference is entirely lost in the period of adolescence (12-14 years). On the other hand, according to some authors<sup>4,5</sup> girls outperform boys in tests on reading literacy, while in tests on mathematical literacy male students have higher scores than their female peers.

Acceptance within peer groups is a fundamental indicator of the social competence of the individuals during the period of early adolescence. It shows the degree of maturity and emotional stability of a person and indicates efficiency in social interactions<sup>6</sup>. Many authors point to a significant correlation between school success and sociometric status of students<sup>7,8,9</sup>. Nomination by peers plays an important role in explaining the variation of school achievement and is an important predictor of future school failure<sup>3</sup>. The highest degree of positive correlation between school success and sociometric status is associated with popular children. Children who are popular, accepted, and favourite among peers predominantly carry out enviable educational achievements, while unpopular and discouraged children mostly have a multitude of problems in realizing school tasks<sup>8,10-14</sup>. Popular children are mea-

sured in perfection, are not prone to conflicts and often choose different constructive mechanisms to overcome their mutual problems. They have strong supportive and prosocial action. They mainly combine school and social competence<sup>7,8</sup>.

In contrast, rejected students are not favored, are rarely chosen for friends and often show different behavioral problems (aggression, hyperactivity, delinquent behavior). Such children have poorer educational achievements, frequently neglect school obligations and often drop out of school well before the others<sup>3,10-12,15</sup>. Within this group there are two subgroups: rejected-aggressive students and rejected-withdrawn students<sup>16</sup>. Rejected-aggressive students show an extremely high level of aggressive, hostile and impulsive behavior. Their reactions are not harmonized with the expectations of the group – they are often angry, express rage, disturb joint activities and act destructively to group cohesion. On the other hand, rejected-withdrawn students are extremely quiet, unobtrusive and shy. Because of their neurological problems (highlighted social anxiety) and timid nature, they avoid mutual socializing and try to isolate themselves from others. Their shy nature, disorientation in social relationships and a sense of confusion are sort of a bait to potential peer-abusers<sup>16</sup>.

Concerning the controversial students, a certain mixture of positive and negative elements is usually visible among them. Controversial students (as well as the rejected ones) achieve high scores on the aggression measures. However, they have certain social qualities that ensure them a sufficient social acceptance. They have a good sensibility when it comes to social relationships and social adaptation, which gives them a sense of personal happiness and satisfaction in peer relations<sup>7,17</sup>. Isolated (neglected) students rarely try to enter the group and make friends, and when they do, they are quite indecisive and hesitant. After their unskilled attempts fail, they quickly retreat and give up. In case they develop a certain dose of loneliness in addition to dereliction, they can become depressed. However, an unexcused absence from school, aggressive or antisocial behavior is not characteristic for them. Paradoxically, they are seen as well-adjusted people, who may terminate their solitary stance at any time and come back under the wing of the group. Although not belonging to the highly accepted children, the neglected students are often motivated, active in school activities and do demonstrate academic achievements and positive behavioral profiles<sup>7,10,11</sup>.

Numerous researchers have analyzed the correlation of sex and sociometric status of the students. Most of them show that there is no significant difference in the essentials of popularity (a friendly relationship with the members of the group, attractive physical appearance, cheerful mood...) among male and female adolescents. Likewise, there are also no significant differences in the index of the sociometric status within a particular class section between boys and girls<sup>12,15</sup>.

Similarly, many researchers have analyzed the correlation between school success and social competence of students<sup>3,14,17,18</sup>. Most of them showed that popular students

are often included in different classroom activities and that they regularly achieve high educational results. Somewhat lower results of school achievement are present among isolated and controversial students, while rejected children have the lowest level of academic achievement. In addition, it can also be concluded that gender is not substantially affected by the sociometric status of students. However, if one looks at the impact of gender on academic achievement, the data obtained in the research are not fully consistent<sup>3-5,19</sup>. Therefore, a fundamental objective of this research is to examine the relationship between school success, gender and sociometric status of students in higher grades of elementary school.

## Sample and Methods

### Sample

The research was conducted in five primary schools in Split-Dalmatia County: Skalice primary school, Gripe primary school, Don Lovre Katic primary school, Dugopolje primary school and Neoric primary school. The study involved 427 students from 22 classes of the seventh and eighth grades: 217 boys (50.8%) and 210 girls (49.2%).

### Instruments

Sociometric status questionnaire - this questionnaire examines a sociometric status of an individual within a particular group (e.g. students in class). It consists of positive and negative nominations – three positive and three negative (limited selection criteria). The task of each student was to nominate three children with whom they like to hang out in their free time, or to specify the children with whom they do not like to hang out during free time. Based on these nominations, social significance and social preferences of students were determined, which helped to sort them out in various sociometric categories (popular, rejected, isolated and controversial children). Questionnaire filling was conducted as a group task in each class during the homeroom time. Each of the tested classes completed the questionnaire during the class after a detailed introduction to the procedure.

Data on the grade point average (GPA), as well as the one on individual subjects were collected by means of a questionnaire filled by the teachers of each class, referring to grades that the students received in the half-term semester.

### Data analysis

A description of the observed variables was also included into statistical analysis. The impact of gender and sociometric status of children on their grade point average (GPA) was tested by using an analysis of variance model, where gender and sociometric status were taken as independent variables and general school achievement was taken as a dependent variable. The normality of the

grade point average division has been tested by the Kolmogorov-Smirnov's test ( $N = 427$ ,  $K-S Z = 5.631$ ,  $p < 0.001$ ). Since the grade point average does not follow a standard distribution, it was performed by the means of bootstrap method. The results are based on the 1000 bootstrap samples. The impact severity of these factors on the dependent variable was assessed concerning the partial eta-square coefficients. Post hoc analysis was performed by Tukey's method and a t-test of the independent samples. For the threshold in statistical decision-making the usual 5% ( $\alpha = 0.05$ ) was used. The analysis was performed by using the PASW Statistics 18.

## Results

The impact of sociometric status of students on their school performance has been investigated by using two-factor analysis of variance with gender and sociometric status as factors and school achievement as the dependent variable. The assumption that the average general school success is statistically very different in various categories of factors, as well as in the possible combinations of these categories with the significant mutual interaction, was also checked accordingly. The grade point average both of female students and male students according to the categories of their sociometric status is shown in Table 1 and in Figure 1. The analysis of the results, primarily from the aspect of gender, shows that female students have statistically significantly better results with the average of 3.91 ( $N = 210$ ,  $SD = 1.13$ ) than the male students whose average overall school achievement is 3.41 ( $N = 217$ ,  $SD = 1.29$ ) (Table 1). When consid-

**TABLE 1.**  
DESCRIPTIVE STATISTICS OF GRADE POINT AVERAGE OF STUDENTS ACCORDING TO SEX AND SOCIOMETRIC STATUS CATEGORIES (SMS)

Gender	SMS	N	Mean	St. deviation
Female	Popular	81	4.25	0.89
	Rejected	42	3.19	1.42
	Isolated	41	3.90	1.0
	Controversial	46	3.98	1.04
	Total	210	3.91	1.13
Male	Popular	75	3.52	1.22
	Rejected	35	2.97	1.54
	Isolated	50	3.16	1.31
	Controversial	57	3.75	1.07
	Total	217	3.41	1.29
Total	Popular	156	3.90	1.12
	Rejected	77	3.09	1.47
	Isolated	91	3.49	1.23
	Controversial	103	3.85	1.06
	Total	427	3.66	1.24

ering the influence of sociometric status on grade point average, regardless of gender (Table 1), it can be noticed that the group of popular students achieves the best grade point average 3.90 ( $N = 156$ ,  $SD = 1.12$ ). They are then followed by a group of the controversial ones of 3.85 ( $N = 103$ ,  $SD = 1.06$ ), while the group of isolated students reaches an average of 3.49 ( $N = 91$ ,  $SD = 1.23$ ). The weakest group is the one of rejected students with an average rate of 3.09 ( $N = 77$ ,  $SD = 1.47$ ). However, if we look at the results of grade point average in relation to their sociometric status, especially to the sex of students, the best results are achieved by popular female students and

**TABLE 2.**  
TWO FACTOR ANALYSIS OF VARIANCE OF GRADE POINT AVERAGE BY GENDER AND SOCIOMETRIC STATUS

Source	SS <sup>a</sup>	df <sup>b</sup>	MS <sup>c</sup>	F <sup>d</sup>	p <sup>e</sup>	partial eta-square	
Main effects	Gender	22.610	1	22.610	16.473	<0,001	0.038
	SMS	39.212	3	13.071	9.523	<0,001	0.064
Interaction	Gender * SMS	6,743	3	2.248	1,638	0,180	0.012
	Error	575,099	419	1.373			
Total	650,393	426					

\* type III Sum of Squares, <sup>b</sup> degree of freedom, <sup>c</sup> Mean Square, <sup>d</sup> test statistics, <sup>e</sup> probability

controversial male students ( $M = 4.25$ ,  $N = 81$ ,  $SD = 0.89$ ) that is  $M = 3.75$ ,  $N = 57$ ,  $SD = 1.07$ ) while at the same time the worst results are present in the group of rejected female students ( $M = 3.19$ ,  $N=42$ ,  $SD = 1.42$ ) and rejected male students ( $M=2.97$ ,  $N = 35$ ,  $SD =1.54$ ).

According to the results of the two-factor model of the variance analysis (Table 2), the gender and the sociometric status of the students significantly influence the grade point average of adolescents independently because the interaction among them is not statistically significant. According to partial eta-square coefficients, sociometric status has a stronger impact on grade point average (eta-square = 0.064) than gender (eta-square = 0.038). According to Cohen's classification, the sociometric status has a medium strong influence, while the influence of sex is closer to the medium-strong influence than the weak one.(Table 1,2)

Post hoc analysis shows that male and female adolescents significantly differ when it comes to statistics: in the variables of school success and sociometric status. Within the group of female adolescents only rejected ones differ significantly in relation to other groups. Among the other sociometric categories of female adolescents (popular, controversial and isolated) there was no statistically significant difference related to their school success. At the same time, in the group of male adolescents, sociometric groups are slightly different. Rejected students differ significantly in relation to the popular and controversial group (Figure 1).

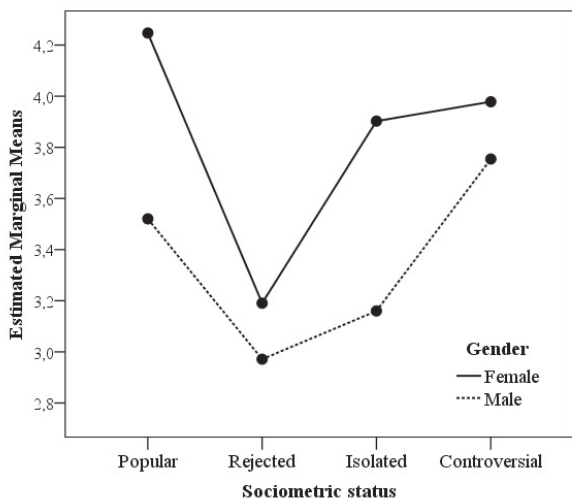


Fig. 1. Estimated marginal means of grade point average according to gender and sociometric status.

### Discussion

The research results of school achievements among adolescents show that the difference in academic achievements between male and female students in higher grades of primary school is very visible, evident and significant, it is actually completely opposite to the results of some previous studies<sup>3</sup>. According to the obtained data, the female students of seventh and eighth grades in primary schools have significantly higher educational achievements and leave school with better results than the male students. In addition, the research results also showed a significant interconnection of school achievement and social competence of students, expressed through the sociometric status, what is in accordance with the allegations of many authors<sup>3,13,16,17</sup>. Furthermore, the results confirmed that the influence of sociometric status to general school performance is relatively similar for both sexes. However, a statistically significant difference in the average of school success between male and female students was observed – male students have a lower average than the female ones in all the sociometric status categories. The most successful groups of adolescents, in terms of academic achievements, were a group of popular female students and a group of controversial male students, while the least successful was a group of rejected ones in case of both sexes. Because of their pro-social behavior, avoidance of the unnecessary conflicts and usage of constructive mechanisms in solving mutual problems, popular students are highly accepted among peers. They usually combine academic and social competence, which enables them easier orientation within the peers, as well as achieving significant social positions and better academic results<sup>8,17,20</sup>. It seems that the acceptance by peers truly helps in emotional, educational and any other empowering of the students, giving them a sense of self-confidence, personal affirmation and deep satisfaction. At the same time, better school performance strengthens the self-esteem, which has a direct

impact on the peer status and the overall social adaptation. Controversial students also have better school achievements in relation to the other two categories (controversial boys even have better average than the popular ones). Although they often use different aggressive elements within their behaviour, they still have an increased sensitivity to others and quality repertoire of social skills that ensure them an adequate peer acceptance<sup>7,15</sup>. On the other hand, isolated students have weaker school performance compared to the popular and controversial students. Although they can possibly reach quality academic achievements, it still seems that the unsociable and solitary behavior makes a long-term damage to their school success and results in a lower level of educational results<sup>8,15</sup>.

The worst academic results are achieved by rejected students. Due to the negative perception within the class to which they belong, these students are often not accepted by their peers. Other children generally perceive them as undesirable, do not accept them very well and see them as nuisance and unnecessary burden. Due to the various behavioural problems, they are often not sufficiently motivated for teaching and extra-curricular activities. According to the testing of these students, a character and a connection quality between social competence and school success is quite visible. Children who have different problems in peer relations or in social affirmation frequently show lower school achievement<sup>3,10,12,14,15</sup>.

Finally, when looking at the interconnection of sociometric status, gender and school achievement, it is visible that the weakest school results were achieved by rejected students (males). It seems that the male rejected students, when compared to other categories, represent the most risky part of the student population in terms of academic achievement, but also in terms of the social status within the class. Such children, when compared to others, often neglect school obligations and substantially abandon education. Their educational and educational perspectives will most likely be burdened with various difficulties, ranging from reduced levels of educational motivation, learning content problems, lack of inventiveness and creativity to serious difficulties and misunderstandings during the educational process. Thus, we can conclude that the group of rejected male adolescents is at the greatest educational risk and consequently requires a special pedagogical treatment and systematic professional monitoring<sup>19</sup>. In order to prevent school failure and later possible deviations from different forms of socially unacceptable behaviour, it would be necessary to systematically implement discrete personal protection programs and thus, in regular educational work, show them much more patience, attention, understanding and warmth<sup>21</sup>.

### Conclusion

The results of this study clearly indicate that both male and female students in higher grades of elementary school with better social status within the group achieve higher academic results and have better school performance. Rejected students are the most vulnerable part of the school



population and therefore require special attention and care, and a well-designed and effective pedagogical approach.

The mutual influence of academic achievement and social skills is an important pedagogical space that can be filled with many thought-out and high-quality educational activities to improve the academic achievement of students and enhance their social affirmation, such as teamwork on different projects, classes as supportive and collaborative environments, communities, discrete per-

sonal protection programs, fostering social development through the curriculum of social competences etc<sup>21-24</sup>. School success and social competence are two dimensions of the same dynamic process and can not be mechanically separated from one another, because they represent a unique educational and environmental unit. Pedagogical interventions that seek to encourage and strengthen one of the two educational segments, will not have a full pedagogical effect, but will remain vague, incomplete and insufficiently effective to some extent.

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## ŠKOLSKI USPJEH, SPOL I SOCIOMETRIJSKI STATUS UČENIKA

### SAŽETAK

U radu je analiziran međusobni odnos školskog postignuća, spola i sociometrijskog statusa učenika viših razreda osnovne škole. Istraživanje je obuhvatilo 427 učenika – 210 djevojčica (49,2%) i 217 dječaka (50,8%). Prema dobivenim rezultatima spol i sociometrijski status značajno utječu na opći školski uspjeh i to nezavisno jer interakcija među njima nije statistički značajna. Učenice imaju značajno bolje školsko postignuće od učenika. Rezultati su potvrdili značajnu povezanost školskog uspjeha i socijalne kompetencije adolescenata. Popularni adolescenti postižu najbolja školska postignuća, zatim slijede kontroverzni i izolirani, dok najslabije odgojno-obrazovne rezultate ima skupina odbačenih adolescenata. Ukoliko se rezultati pogledaju s aspekta spola, najslabiji školski uspjeh postižu odbačeni učenici (dječaci). Odbačeni učenici (dječaci) predstavljaju najrizičniji dio učeničke populacije kako u odnosu na školsko postignuće tako i s aspekta razvoja socijalne kompetencije. To ukazuju na potrebu uvođenja osmišljenih i kvalitetnih odgojno-obrazovnih pristupa i aktivnosti, s ciljem afirmacije vršnjačkih odnosa učenika i poboljšanja njihovog školskog postignuća.