

# Predictors of student satisfaction - The role of social capital and teacher support

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## ABSTRACT

The pandemic generated by the COVID-19 virus caused many changes in the education system. On the one hand, universities developed the infrastructure and provided more learning materials in digital format. On the other hand, the lockdown restrictions stimulated students to create new abilities and skills. Online communication with teachers improved as well as online communication with colleagues. Student satisfaction is a key variable in the evaluation of academic service quality and depends on many factors, such as motivation, aspirations, self-efficacy, and learning support. The purpose of this work is to analyze the interplay between three antecedents of student satisfaction: student self-efficacy, social capital, and teacher support. The results showed that while student self-efficacy was the main predictor, the other two factors had both a direct and indirect effect on student satisfaction.

## Keywords

Student satisfaction, academic self-efficacy, social capital, teacher support, online learning.

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## INTRODUCTION

The pandemic generated by the COVID-19 virus forced students and teachers to embrace online education, imposing new teaching and learning styles [5, 14]. Adaptation in a short time was not easy, and the difficulties encountered by students and teachers have been frequently reported in the last three years as a major disadvantage [20, 22]. This change had an impact on the way students organize their academic work, prepare for exams, and communicate with teachers and other colleagues.

After two years, university life slowly came back to the traditional face-to-face education. However, the situation is not the same. During the pandemic, many universities developed the infrastructure and provided many more learning materials in a digital format. In many cases online teaching is still used and, sometimes this situation is preferred due to its flexibility and advantages derived from learning at home [14]. By extension, nowadays, many educational systems are featuring various patterns of hybrid learning [30].

During this period, students developed new abilities and skills. The online communication with teachers improved as well as the communication with colleagues. The question is to what extent do those changes in the educational system have an impact on student satisfaction?

Nowadays, education system quality is a precondition for economic progress. Professional formation and training are a priority for gaining economic advantages in a competitive market [24]. Good education means good academic performance which depends on the quality of academic services, including quality of teaching and proper use of educational technologies. In turn, this requires continuous monitoring of the university's successful performance.

On the other hand, student satisfaction represents a key variable in the evaluation of academic service quality and depends on many factors, such as motivation, aspirations, self-efficacy, learning support, learning engagement, and academic achievements [8, 9, 11, 21, 31, 35].

Various studies explore the variables that influence student satisfaction in the academic environment. Those include the quality of the educational process and the relationship with teachers, as factors that influence both academic success and the intention to continue studies at a higher level [2, 29]; they also explore the sense of belonging to the academic community [10], as well as anxiety and technostress [1] on student satisfaction.

A better understanding of the antecedents of student satisfaction brings useful insights into the adoption of new technologies and how these could be used in the educational process.

The main objective of this research is to analyze the interplay between three antecedents of student satisfaction: student self-efficacy, social capital, and teacher support. The analysis has been done by specifying and testing a research model on a sample of 194 Romanian university students.

The next section presents related work that is discussed with a focus on the aforementioned variables. The research model and hypotheses are presented in section 3. Then, the model estimation results are presented and discussed. The paper ends with conclusions in section 5.

## RELATED WORK

Self-efficacy has been defined as the perceived capability of successful completion of a task and refers to the judgment about being able to perform that task rather than the task performance [3]. As several studies pointed out, self-efficacy is an important variable explaining individual behavior and having an influence on academic achievements and student satisfaction [3, 7, 15].

Putnam [28] distinguished between two forms of social capital referred to as bridging and bonding. Bridging social capital features weak ties and manifests in social networks.

Francescato et al. [13] investigated the effects of computer-

supported collaborative learning on the development of social capital in university contexts. They found that online groups of students have a higher perception of self-efficacy for problem-solving and social self-efficacy. Also, they found that online learning stimulated the acquisition and maintenance of social capital.

More recently, similar findings resulted from the study of Venter [34]. He analyzed the interplay between social media, social capital, and online learning in the context of personal learning environments that feature various forms of formal and informal learning. Social capital measured by new ties enables students to develop abilities to participate in discussions and share resources.

The study of Valenzuela et al. [33], analyzed students' benefits of social capital in terms of satisfaction, trust, and engagement. For example, survey data has been collected from students of two US universities. The results showed a positive correlation between social capital and satisfaction related to life at university.

De Andrea et al. [8] analyzed the use of social media on students' adjustment to college. They found that bridging self-efficacy, as a measure of a student's ability to find useful social ties with other students, predicted academic self-efficacy. Another finding was that bridging social capital has a positive significant influence on academic self-efficacy.

In a pilot study, a multidimensional model of the bridging social capital perceived by Lithuanian university students on Facebook networks has been proposed [26]. The study found a positive significant correlation between social capital and student satisfaction related to life at university.

As pointed out in a recent study [5], self-efficacy is an important factor influencing learning effectiveness. The study of Jan [19] analyzed the interplay of academic self-efficacy, computer self-efficacy, and satisfaction with online learning. The findings revealed that academic self-efficacy was the main predictor of satisfaction. The gender analysis suggests that female students may have a higher perception of academic self-efficacy than males.

Petersen and Johnston [25] also analyzed the social capital formed in the interaction of social networks and student satisfaction. The findings showed a positive correlation between the use of social networks, social capital, and satisfaction with university life.

Blended learning is gaining more and more attention due to its flexibility and convenience. The study of Prifti [27] analyzed the relationship between student self-efficacy and satisfaction in the clear context of exploiting a blended learning format. The results showed a high influence of self-efficacy on student satisfaction.

The shift to online learning changed the way students are interacting with their teachers. Several studies found a positive association between teacher support and student self-efficacy and satisfaction [4, 31]. In a literature review, Bartimote-Aufflick et. al [4] highlighted several teaching strategies that could improve student self-efficacy.

Um & Jang [32] analyzed the antecedents and effects of online learning on a sample of 236 college students from South Korea. They specified and tested a model featuring interactions, teaching presence, and self-management of learning, as antecedents and continuance intention to use online learning as a consequence of student satisfaction. Their results showed that all four antecedents have a significant influence on student satisfaction which, in turn, positively influences the intention to continue using online learning.

The study of Carranza Esteban et al. [6] analyzed three predictors of study satisfaction among university students during the COVID-19 pandemic: academic self-efficacy, anxiety, and psychological distress. Their results showed that academic self-efficacy was the main predictor, accounting for 18% of variance.

Huang & Zhang [17] examined the relationship between social support and the subjective well-being of university students in the context of online learning. Based on the analysis of a sample of 515 Chinese students, they found a positive significant correlation between social support and life satisfaction.

Recently, Jederlund & von Rosen [18] analyzed the teacher-student relationship in the context of Scandinavian education. Their findings indicate positive associations between teacher support, students' self-efficacy, and success thus supporting the idea that student self-efficacy beliefs are an important factor in their academic achievements.

Koka et al. [20] analyzed the mediating role of academic self-efficacy in the relationship between attitude towards distance education and satisfaction with academic life. The results showed that academic self-efficacy had a positive influence on academic life satisfaction and also partially mediated the indirect influence of attitude. A second finding of this study was the moderating role of gender. Their results showed that although women have a lower self-efficacy belief, they have a higher satisfaction with academic life.

Another recent study [21] analyzed the relationship between teacher support and learning engagement. They distinguished between academic and emotional support and found that the influence of academic support on learning engagement is mediated by student self-efficacy. The study focuses on the mediation effect of self-efficacy which adds value to teaching support by strengthening students' sense of school belonging and confidence in solving difficult tasks and overcoming difficulties.

## METHOD

### Research model and measures

The research model that relates the bridging social capital, academic self-efficacy, and teacher support with student satisfaction is presented in Figure 1.

Bridging social capital refers to the social ties formed by interaction with other people on social networking websites. Social capital is multifaceted: it broadens social horizons and perspectives, opens new opportunities for information and resources, and gives a sense of belonging to a larger community.

It is hypothesized that social capital has a positive influence on academic self-efficacy and student satisfaction [8, 25, 26, 33].

H1 Social capital has a positive influence on academic self-efficacy (SC → ASE)

H2 Social capital has a positive influence on student satisfaction (SC → SAT)

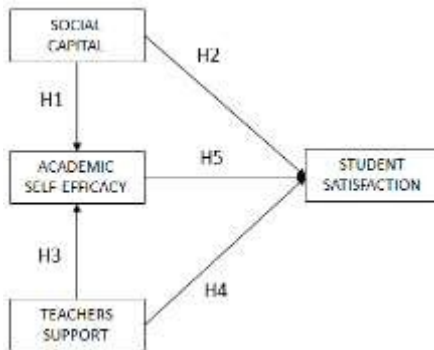


Figure 1. The research model

Teacher support (TS) refers to the availability of teachers to answer questions and help students in their academic activities. It is expected that a higher teacher's support will make students more confident in their efficacy with the academic work and more satisfied with their achievements and life at university [4, 31].

H3 Teacher support has a positive influence on academic self-efficacy (TS → ASE)

H4 Teacher support has a positive influence on student satisfaction (TS → SAT)

Academic self-efficacy makes students more confident in their future academic achievements. It is expected that academic self-efficacy will positively influence student satisfaction [6, 19, 33].

H5 Academic self-efficacy has a positive influence on student satisfaction (ASE → SAT)

The measures that have been adapted from existing scales in the literature [7, 15, 26, 33] are presented in Table 1.

Table 1. Measures

SC1	I feel I am a part of the university community
SC2	I am interested in what other people from my university are thinking
SC3	Interacting with people from my university makes me want to try new things
ASE1	I believe I can keep up well with academic work
ASE2	I believe I can manage my time effectively
ASE3	I believe I can concentrate well on school subjects
TS1	Teachers are willing to help us when we need
TS2	Teachers are willing to guide us in our learning
TS3	Teachers are open and willing to talk when we have questions
SAT1	I am satisfied with my life at the university
SAT2	I am satisfied with the level of intellectual stimulation in my courses
SAT3	I am satisfied with how much I have been learning in my classes

### Data analysis and procedures

The empirical validation of the model has been done in two steps: (1) analyzing construct validity by testing the measurement model, and (2) validation of hypotheses by testing the structural model.

Convergent validity has been assessed according to the recommended thresholds from the literature [12, 16], as regards loadings, construct reliability (CR>0.70), and average variance extracted (AVE>0.50). Discriminant validity has been assessed through the squared correlation test [12].

The model fit with the data has been assessed by analyzing the goodness of fit (GOF) indices, as recommended in the literature [16]: chi-square ( $\chi^2$ ), degrees of freedom (df),  $\chi^2/df$ , comparative fit index (CFI), non-normed fit index (NNFI), the goodness of fit index (GFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR).

The models were analyzed with Lisrel 9.3 for Windows [23], using the maximum likelihood estimation method.

### EMPIRICAL STUDY

#### Sample

To collect data, a questionnaire was administered at Valahia University of Targoviste in the first semester of the 2023- 2024 academic year. The participation was voluntary and the name or student ID has not been asked, to ensure anonymity.

A total of 196 questionnaires have been received. After checking the responses, two have been eliminated for incomplete data thus resulting in a working sample of 194 observations, gender-balanced (86 M/ 108 F). Most of the students (62.9%) are 19-29 years old, 26 students (13.4%) are 30-39 years old and the rest of 46 (23.7%) are 40 or more years old.

Students were asked to answer several general questions regarding age, gender, faculty and specialization, year of study, and discipline/course, and then to evaluate the items on a 5-point Likert interval scale.

#### Model estimation results

Testing the measurement model showed a low factor loading for SC1 so the item has been eliminated and the model has been tested again. The descriptive statistics and factor loadings for the four latent variables are presented in Table 2.

The goodness of fit indices (GOF) for the measurement model are over the cut-off values which indicates a good fit of the model with the data:  $\chi^2=8t.14$ , DF=38, p=0.000,  $\chi^2/DF=2.27$ , RMSEA=0.080, CFI=0.961, NNFI=0.943, GFI=0.924, SRMR= 0.0428.

All mean values are over the neutral value of 3.00 showing a positive perception of all factors. Student satisfaction has been scored pretty high, close to 4.00. Lower mean values, although over 3.50, have been found for social capital and academic self-efficacy.

Table 2. Descriptives and factor loadings (N=194)

Item	Mean	SD	Loading
SC2	3.75	1.30	0.78
SC3	3.94	1.19	0.85
ASE1	3.84	1.00	0.73
ASE2	3.67	1.05	0.72
ASE3	3.89	0.96	0.73
TS1	4.42	0.95	0.92
TS2	4.47	0.87	0.90
TS3	4.64	0.72	0.79
AT1	3.94	1.04	0.82
SAT2	4.00	0.96	0.87
SAT3	3.92	1.00	0.79

The latent variables proved to be unidimensional since all loadings are over the threshold of 0.6. The structural model validation and estimation results are presented in Table 3 and Figure 2.

The composite reliability (CR) of each construct ranges between 0.770 and 0.904, above the cut-off value of 0.70. The average variance extracted (AVE) ranges from 0.528 to 0.760, above the cut-off value of 0.50, showing a good relationship between dimensions and measures.

Table 3. Convergent and discriminant validity (N=194)

	CR	AVE	SC	ASE	TS	SAT
SC	0.799	0.665	<b>0.816</b>			
ASE	0.770	0.528	0.505	<b>0.727</b>		
TS	0.904	0.760	0.508	0.441	<b>0.872</b>	
SAT	0.867	0.684	0.616	0.772	0.619	<b>0.827</b>

Discriminant validity has been assessed with the squared correlation test [12], by comparing the square root of AVE (in bold on the diagonal) with construct inter-correlations. Since the square root of AVE is higher the model has good discriminant validity.

The goodness of fit indices (GOF) showed a good fit of the structural model with the data:  $\chi^2=85.14$ ,  $DF=38$ ,  $p=0.000$ ,  $\chi^2/DF=2.27$ ,  $RMSEA=0.080$ ,  $CFI=0.961$ ,  $NNFI=0.943$ ,  $GFI=0.924$ ,  $SRMR=0.0428$ .

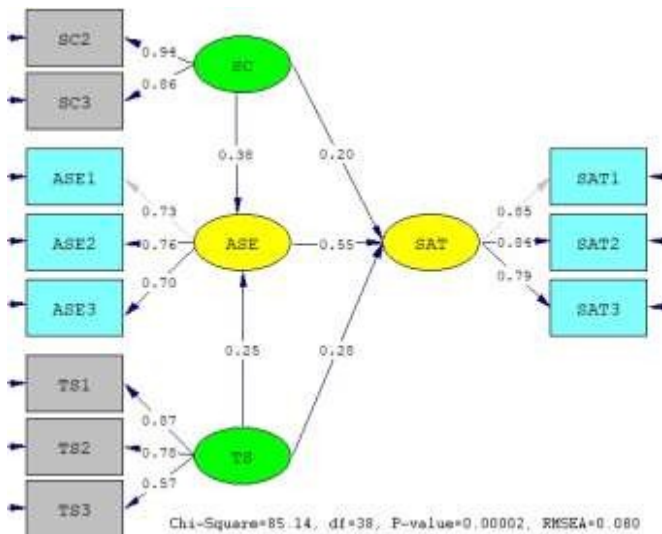


Figure 2. Structural model estimation results (N=194)

The paths from social capital to self-efficacy ( $\beta=0.38$ ,  $p=0.000$ ) and student satisfaction ( $\beta=0.20$ ,  $p=0.013$ ) are significant so H1 and H2 are supported. The paths from social capital to self-efficacy ( $\beta=0.25$ ,  $p=0.009$ ) and student satisfaction ( $\beta=0.28$ ,  $p=0.009$ ) are significant so H3 and H4 are also supported. The last hypothesis is also supported because academic self-efficacy has a significant positive influence on student satisfaction ( $\beta =0.55$ ,  $p =0.000$ ).

Apart from direct effects, social capital and teacher support have indirect effects on student satisfaction, as shown in Table 4.

Table 4. Direct, indirect, and total effects (N=194)

Effects	Direct	Indirect	Total
SC	0.20	0.21	0.41
TS	0.28	0.13	0.41

The results show that the two variables have a similar total effect on student satisfaction. The difference is the strength of mediation by the academic self-efficacy, which is higher for the social capital.

The structural model explains a lot of variance (71.7%) in student satisfaction and 30.1% in self-efficacy.

**DISCUSSION**

The main contribution of this study is a theoretically grounded and empirically validated model to assess the influence of three predictors of student satisfaction. The model accounts for more than 70% of the variance in the dependent variable which proves the important role played by social capital, academic self-efficacy, and teacher support. All five hypotheses have been accepted which shows that all three predictors are important.

Academic self-efficacy was the main predictor of student satisfaction with a strong significant influence. The findings are consistent with the results of other studies that highlighted the positive association between academic self-efficacy and student satisfaction [6, 32].

The model estimation results show that both social capital and teacher support play a significant role in student satisfaction having both direct and indirect effects mediated by academic self-efficacy. While the two factors have a similar total influence on student satisfaction, the influence of social capital on self-efficacy is higher which shows the positive outcomes of social interaction between students. This is consistent with other findings in the literature that highlighted the positive association between social media, social capital, and self-efficacy [5, 8].

The results have several educational implications. Teachers need to understand the importance of the teaching methods for student self-efficacy and satisfaction. Apart from finding ways to improve academic self-efficacy, they should pay attention to student’s needs and provide fast and useful support.

Learning support, provided in various forms such as constructive feedback, guidance, mentoring, availability, and emotional support (encouragement, motivation, counseling), plays an essential role in creating an environment conducive to development and favorable relationships for students. Also, social capital, as a variable that positively influences both academic self-efficacy and student satisfaction, must be seen as an investment in the personal and professional development of students, and

higher education institutions can focus their efforts on creating opportunities and services to facilitate a physical or virtual connection in the academic corpus; they can adopt educational policies that promote a culture of confidence and academic success for all students and implement teacher training programs that emphasize individualized support.

The model has also practical implications for researchers aiming at better understanding the role played by each factor and the interplay between factors that are influencing the quality of education.

This is a cross-sectional exploratory study so it has inherent limitations. The sample is not representative since it includes students from only one university. Second, the study focused on only three variables that positively influence student satisfaction. Future work will extend this model by including other antecedents.

#### CONCLUSION AND FUTURE WORK

Understanding the factors that have an impact on student satisfaction and academic self-efficacy enables teachers to improve their teaching strategies. This work highlighted the importance of self-efficacy for student satisfaction.

This paper explores two key predictors of student satisfaction: social capital and teacher support. Social capital in the university environment refers to the benefits that individuals obtain from their network of relationships, such as connections with colleagues and professors, reducing feelings of isolation and loneliness, increasing motivation and involvement, creating a support system for academic challenges, and training the feeling of belonging to the academic environment.

Teacher support derives from the very mission assumed upon entering this system. Students have expectations and need for connection with their teachers and support provided in various ways. Supportive teachers adopt a democratic teaching style, are responsive to student needs, are available and approachable, and create a positive classroom climate that encourages participation, reduces anxiety, and promotes student well-being.

All these are prerequisites for academic success. Effective teacher support contributes to increasing students' confidence and self-efficacy, promoting a sense of achievement and academic progress, cultivating a love of learning and intellectual curiosity, and building positive relationships between teachers and students.

Social capital and teacher support are often closely related. Strong teacher-student relationships can facilitate the development of social capital among students. Also, a vibrant classroom environment, fostered by supportive teachers, can engage students and encourage them to form connections with one another.

By understanding the significant roles of social capital and teacher support, educators and institutions can implement

strategies to enhance student satisfaction. Students satisfied with their educational experience are more motivated, actively engaged in coursework and related activities, and may achieve better academic results. Student satisfaction is correlated with better well-being, higher self-esteem, and reduced stress and anxiety. Satisfied students are more likely to feel integrated in the university environment and develop positive relationships with colleagues and professors; they also have a lower dropout rate. Increasing student satisfaction can lead to an increase in the institution's reputation and attract more students.

Several directions of research on student satisfaction could seek to correlate this variable with various personality traits or socio-emotional competencies of students (or even teachers), as well as other individual elements for teachers to consider when designing and implementing student-centered education.

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