Teachers and Curriculum

Journal website: http://tandc.ac.nz

ISSN 2382-0349

Published by the Wilf Malcolm Institute of Educational Research

Volume 20 Issue 1, 2020

University student satisfaction, resource management and metacognitive learning strategies.

Gamze Kasalak & Miray Dağyar

Editor: *Kerry Earl Rinehart*

To cite this article: Kasalak, G., & Dağyar, M. (2020). University student satisfaction, resource management and metacognitive learning strategies. *Teachers and Curriculum, 20*(1), 73–85. https://doi.org/10.15663/tandc.v20i1.343

To link to this volume: https://doi.org/ 10.15663/tandc.v20i1

UNIVERSITY STUDENT SATISFACTION, RESOURCE MANAGEMENT AND METACOGNITIVE LEARNING STRATEGIES

GAMZE KASALAK & MIRAY DAĞYAR
Akdeniz University
Turkey

Abstract

The study aims to determine the relationship between university students' satisfaction with the university and the use of resource management and metacognitive self-regulatory learning strategies through structural equation modelling. This study was designed in a descriptive correlational model. The data were collected from 364 undergraduate students at a university in Turkey. Structural equation modelling was used to test the model that showed the relationships between student satisfaction, resource management and metacognitive self-regulatory learning strategies, and the descriptive statistics of the variables and correlations were also calculated. Research results show that metacognitive and resource management self-regulatory learning strategies affect student satisfaction. significantly at a low level. Students' use of self-regulatory learning strategies positively affects their satisfaction from the institution they are studying. In addition, the mediating effect of resource management self-regulatory learning strategy between metacognitive learning and student satisfaction was examined, and the indirect impact of resource management on student satisfaction was also found to be significant.

Keywords

University student satisfaction; resource management; metacognitive learning strategies; structural equation modelling

Introduction

Higher education institutions are considered among the main institutions which are responsible for the production of knowledge and human resources, which are necessary for the development and improvement of countries, and thus which determine the future of nations. As a matter of fact, higher education institutions have important functions and responsibilities for criticising various social and economic developments, transferring cultural values to next generations, enabling people to gain new knowledge and protecting them. In addition, their contribution to increasing social welfare and raising standard of living cannot be denied. In fact, as behaviours, attitudes and value judgments of students studying at universities change, the society also enters a process of change (Gediklioğlu, 2005). It can be stated that one of the factors that universities are encouraged by in the process of changing the society is student satisfaction. The concept of student satisfaction is the difference between students' expectations of their experience in the educational institution and what they perceive as a result of these experiences (Franklin & Shemwell, 1995). While Elliot and Healy (2001) define student satisfaction as short-term attitudes that arise with the evaluations of individuals, who receive education services, as a result of their student experiences, Wiers-Jenssenet et al., (2002) describe it as happiness students have as a result of their evaluation of the services provided by the educational institution.

Education is a process of change, and in this process, students' satisfaction with the education they receive and the institution where they study is very essential for the effective continuation of the process. This is because perception of quality in services such as education and customer satisfaction are generally evaluated by looking at the place where the service is provided, the personnel providing the service, the institutional operation and the people receiving the service (Aydın et al., 2014). Student satisfaction indicates the satisfaction felt by students studying at a university regarding the teaching staff,

Corresponding author:
Gamze Kasalak gamzekasalak@gmail.com
ISSN: 2382-0349
Pages. 73–86

consultancy services, management services, resources, computer facilities, and courses and curriculum at the university (Çalık-Var, 2013; Şahin, 2009). Satisfaction with faculty members refers to students' interactions with instructors and student evaluations related to education; satisfaction with the consultancy services expresses the openness of the counsellor to communication, accessibility of the counsellor, providing the orientation and introduction programme to students, and informing them about their responsibilities; and satisfaction with management services puts the emphasis on the recognition by faculty and department managers and accessibility of them, and managers' encouragement to students in organising and participating in academic and social activities (Çokluk-Bökeoğlu & Yılmaz, 2007; Şahin, 2009). Satisfaction with resources refers to making use of classrooms, photocopy, library and social spaces outside the class, the state of the faculty building and the availability of technology, tools and materials; satisfaction with computer facilities indicates the availability and accessibility of internet, computer and software; satisfaction with the course and course syllabi addresses the satisfaction with the course syllabi, the number of courses, the content of courses and the distribution of courses to the terms (Şahin, 2009). As it is seen, in all subscales where educational institutions are evaluated, student satisfaction has an important place because students are the ones receiving services.

Considering the factors affecting the student satisfaction, which has an important place in the evaluation of universities (Aydemir, 2016), it is seen that social and institutional factors are addressed in the literature more (Awang & Ismail, 2010; İhtiyaroğlu, 2018; Lau, 2003; Park & Hee, 2009; Uygur & Yelken, 2017). While institutional factors include academic and management philosophy and practices, social, cultural and sportive facilities offered by the university refer to social factors (Gülcan et al., 2002). Student satisfaction is closely related to the quality of service provided to students in educational institutions (Dilşeker, 2011). In terms of student satisfaction, the relationship between campus life and social life at university is seen as vital (Aydemir, 2016; Awang & Ismail, 2010; Fisher, 2007; Uygur & Yelken, 2017). The study conducted by Wei and Ramalu (2011) aimed to examine the role of service quality (the education and training services, the university campus, the places where social and sports activities are held, transportation and information services) in students' university satisfaction. As a result of the study, it was determined that the quality of service at the university was related to the satisfaction of the students. Ataman and Adıgüzel (2019) stated that the factors that increase the satisfaction of the students to the university are management, physical infrastructure and facilities, teaching-learning process, scientific and social activities, teaching staff, and other students, respectively. In addition, student satisfaction is affected by the physical environment and architectural features of the classroom (Akan, 2014; Veltri et al., 2006). The efficiency of the courses is also shown among the variables that affect student satisfaction for students (Ali et al., 2015; Park & Hee, 2009; Awang & İsmail, 2010). University students believe that the education they receive is important to advance their careers, so the courses at university are expected to be closely related to their profession (Park & Hee, 2009). In this sense, students care about effective teaching in courses. They question the performance of the lecturers and their competences on the subject (Awang & İsmail, 2010; Mete et al., 2018; Okogba, 2016).

When the relevant literature is examined, it is evident in the studies that personal/individual factors that reflect student characteristics as well as institutional and social factors affect student satisfaction (Uzgören & Uzgören, 2007). Personal factors can include many features such as age, gender and the individual's social status gained in social life, social circle and academic success (Gülcan et al., 2002). Accordingly, student satisfaction that indicates whether students are satisfied with the institutional and social factors of the university they are studying may result from their personal characteristics. There is also the responsibility of the student to fulfil learning process as well as the institution in ensuring student satisfaction (Sener & Humbert, 2003). As a matter of fact, the students who find the courses related to their professions are satisfied with the courses, attend these courses regularly, increase their course credits and strive to get high grades. As a result, it is observed that satisfaction levels of the successful students are higher than the others (Egelioğlu et al., 2011; Suhre et al., 2007).

In addition to academic success, there are some studies revealing that individual characteristics related to learning skills such as students' motivation and learning style have an impact on student satisfaction (Eom, 2014; Eom & Wen, 2006; Yılmaz, 2017). The main objective of universities with students who demand education services is to raise contemporary people who are successful, self-confident and social and bring their talent and hobbies to the forefront by creating a high-quality education-teaching environment, and in a sense to increase their satisfaction with the university (Uzgören & Uzgören, 2007).

The human profile that the universities want to reach is the human profile that has a high learning capability and is responsible for their own learning. In this respect, the ability to use self-regulatory learning strategies reflecting students' individual characteristics gains importance. However, in the literature, few studies have been conducted investigating the relationship between student satisfaction and self-regulatory learning strategies which include the various cognitive and metacognitive strategies that enable students to control their own cognition, and resource management strategies that enable students to organise their own learning and learning environment (Kuo et al., 2014; Man-Chih, 2006; Puzziferro, 2008). It is seen that the studies conducted are mostly aimed at online courses within the framework of distance education (Eom, 2014; Puzziferro, 2008). Eom (2014) has conducted a study that evaluates the success of e-learning systems and has obtained statistically significant findings indicating that self-efficacy perceptions of students regarding e-learning is high and their use of self-regulated learning strategies affect their e-learning satisfaction.

Among self-regulatory learning strategies, resource management strategies include factors of time and working environment management, labour management, peer cooperation and help-seeking (Büyüköztürk et al., 2004). Time and working environment management strategy involves a person organising his own working environment and managing the working time (Pintrich, 1999; Zimmerman & Risemberg, 1994). Time and environment management strategies minimise external stimuli that cause learning disabilities to organise the working environment, while time management provides planning to use the time well and learn how to do it (Weinstein & Mayer, 1986). Individuals using the labour management strategy are expected to make efforts to learn, keep their attention constantly, practise different learning strategies and continue to work fearlessly in difficult tasks and subjects. It is emphasised that individuals who use peer cooperation and help-seeking strategies are prone to learning in collaboration with their peers and can ask for help that is necessary for their learning after determining the time when they need help which can support their learning (Büyüköztürk et al., 2004).

When the factors that constitute student satisfaction and resource management are examined, the fact that a relationship can be established between them is noteworthy. For example, how successful is a student who states that he/she is not satisfied with the courses at university in managing his/her own learning time? Is a student who is satisfied with the accessibility of the teaching staff or the consultancy system more effective in using help-seeking strategy compared to the one who is not satisfied? Are those who are dissatisfied with the computer facilities or the facilities provided by the institution students who use working environment management strategy? These and similar questions reveal that there may be a relationship between resource management and student satisfaction. In a study, Puzziferro (2008) has examined the effects of students' self-efficacy in online technologies and competence in self-regulatory learning strategies on their performance in online undergraduate level courses. As a result of the study, significant relationships have been found between time and working environment and labour management, which are among self-regulatory learning strategies, and student performance and student satisfaction. However, no significant relationship has been revealed between peer cooperation and help-seeking strategies and student satisfaction. In addition, significant relationships have been detected between metacognitive self-regulatory learning strategies and student satisfaction. As seen in the research results of Puzziferro (2008), one of the factors related to learning, which is thought to affect students' satisfaction with the institution they study at, is the use of metacognitive self-regulatory learning strategies, which are considered to be the indicators of whether students are aware of their own learning.

Metacognitive strategies are defined as knowledge about cognition, awareness and control (O'Malley & Chamot, 1990; Pintrich & De Groot, 1990). Pintrich et al. (2000) divide metacognitive learning strategies into three components: monitoring of the learning process, knowledge about cognition, and the control of the process. It is important how much the students are aware of their own learning and learning skills. This awareness is directly related to whether or not they use metacognitive learning strategies that enable them to plan, monitor and regulate their own learning. In the evaluation of universities, it is thought that the students who can control their own success and failure and plan, monitor and regulate their own learning will be able to evaluate the institution more efficiently. Therefore, the following questions can be taken as a basis for the predicted relationship between student satisfaction and the use of metacognitive learning strategies: Can a student who is satisfied with the courses and the course syllabi that the university has determined for his field act in accordance with the targets and plans that he has set while learning a certain lesson or subject? Can a student who is

dissatisfied with university administration manage his own learning? Can a student who is dissatisfied with the quality of the teaching staff follow his learning process and correct the behaviours that affect his performance when necessary?

As a result, it is envisaged that there could be a relationship between the use of both resource management and metacognitive self-regulatory learning strategies and student satisfaction. While determining the satisfaction of students with the institution where they study, it is evident that the variables related to the ability of the student to use self-regulating learning strategies may be effective (Puzziferro, 2008). In this context, this study aims to determine the relationship between university students' satisfaction with the university and the use of resource management and metacognitive self-regulatory learning strategies through structural equation modelling.

Method

Research Design

This study was designed in the descriptive correlational model, which is among the relationships between variables.

Study Group

In the study, data were collected from 364 undergraduate students who were studying in 1st, 2nd, 3rd and 4th grades at the Faculty of Education at Akdeniz University, Turkey, and who took part in the study voluntarily. The study group was determined by convenience sampling method, and a total of 258 female and 106 male students were included in the study group considering the gender of the students and the departments they study at. Since the data collection process required from the administration more than one scale, the researchers collected the data in a 50-minute course which included two sessions, each of which was approximately 20 minutes, and a short break of 10 minutes.

Data Collection Tools and Data Collection

Faculty of Education-Student Satisfaction Scale (FE-SSS) . In order to determine the satisfaction levels of prospective teachers regarding their universities, Faculty of Education-Student Satisfaction Scale (FE-SSS) developed by Şahin (2009) was employed. The scale consists of 40 items and six subscales (KMO=0.93; p<0.00). Thereare 11 items in the first subscale and the factor loads of the items vary between 0.740 and 0.568. Five items in the second subscale (between 0.849 and 0.770), seven items in the third subscale (between 0.731 and 0.522), 10 items in the fourth subscale (between 0.637 and 0.349), three items in the fifth subscale (between 0.884 and 0.755) and four items in the sixth subscale (between 0.746 and 0.455) are located. These six subscales are called respectively, satisfaction with the teaching staff, consultancy services, management services, resources, computer facilities and course/course syllabi. The scale was a five-point Likert-type scale rated as (5) Totally satisfied (4) Highly satisfied, (3) Moderately satisfied, (2) Slightly satisfied and (1) Totally dissatisfied. For the reliability of the scale, Şahin (2009) calculated the Cronbach alpha internal consistency coefficients asα=0.91 for the teaching staff, α=0.93 for consultancy, α=0.85 for management, α=0.83 for resources, α=0.89 for computer facilities and α=0.68 for courses and course syllabi.

In this study, while Cronbach alpha internal consistency coefficient was found to be 0.939 for all the items, the internal consistency coefficients for the subscales were 0.920; 0.813; 0.834 and 0.814, respectively. The fit indices of the study were determined as [x^2=746.34, df=249, p<0.001], NNFI=0.94, CFI=0.96, RMSEA=0.09, and SRMR=0.07. Of the determined fit indices, the NNFI value being in the range of 0.90 to 0.95 is the indicator of the acceptable fit of the model (Marsh et al., 2006). If the CFI value is greater than 0.95, it is accepted as an indicator of the perfect fit (Marsh et al., 2006). Since x^2/df value is between 2 and 3 values, it is an indicator of acceptable level of compliance (Kline, 2011). SRMR value was also acceptable for compliance (Browne & Cudeck, 1993). The values below 0.10 are acceptable for complex models for RMSEA (Hair et al., 2010). Also, the t-values obtained from the model confirm the significance of the factor loadings. This scale is preferred as a data

collection tool in today's literature (Baysal & Araç, 2019; İhtiyaroğlu, 2018).

"*The Motivated Strategies for Learning Questionnaire" (MSLQ*), developed by Pintrich et al. (1991), and adapted to Turkish under the name of "Motivation and Learning Strategies Scale" by Büyüköztürk et al. (2004) was used. MSLQ is a self-report survey to measure self-regulatory learning strategies and motivational orientations. The motivation section of the questionnaire consists of six subscales and 31 items (internal/external target orientations, task value, control of learning belief, self-efficacy and test anxiety). The learning section comprises 50 items and consists of a 9-factor structure collected under the headings of cognitive (19 items), metacognitive (11 items) and resource management (20 items) self-regulating learning strategies. MSLQ is a Likert type scale which is rated from 1 (strongly disagree) to 7 (strongly agree). Büyüköztürk et al. (2004) stated that the Cronbach alphas calculated for the learning section vary between 0.41 and 0.75. The results of factor loadings of the learning section are significant and vary between 0.19 and 0.29 for seven items, and between 0.32 and 0.80 for the remaining 43 items. The results of CFA performed to examine the model fit of the learning section of the questionnaire with nine factors with the gathered data showed that the goodness of fit of the model of the scale that consists of nine factors: x^2=4.73 (N=852, df=417, p=.000), RMSEA=0.06, GFI=0.80, AGFI=0.77, NNFI=0.97, RMR=0.22, and SRMR=0.06 (Büyüköztürk et al., 2004).

The data collection tool used allows the researchers to incorporate the variables on the questionnaire which are fit for the purpose of the study they will conduct into their research. In this study, metacognitive and resource management self-regulating learning strategies from the learning section of the scale were the variables of the study. For the purpose of the study, these sub-sections were chosen because they were considered important individual characteristics which can predict student satisfaction. In this study, while Cronbach alpha internal consistency coefficient was 0.76 for all the items, the internal consistency coefficients ranged from 0.76 to 0.31 according to the subscales. When the confirmatory factor analysis is examined, the fit indices of the model [x^2/df=2.96,p<0.00], NNFI=0.90, CFI=0.89, RMSEA=0.06, and SRMR=0.05 has an acceptable level of fit (Browne & Cudeck, 1993; Büyüköztürk et al. 2004; Kline, 2011; Marsh et al., 2006). In addition, the t-values confirm the significance of the factor loadings. This scale is preferred as a data collection tool in the recent studies (Durak, 2019; Karaoğlan Yilmaz & Yilmaz, 2019; Kilis & Yıldırım, 2018).

Data Analysis

Structural equation modelling was used to test the model that showed the relationships between student satisfaction, resource management and metacognitive self-regulatory learning strategies, and the descriptive statistics of the variables and correlations were also calculated. LISREL 8.7 and SPSS 23 programs were used for analysis.

Findings

In the study, firstly, measurement model was examined by using confirmatory factor analysis. Whereas student satisfaction, resource management and metacognitive self-regulatory learning strategies were defined as latent variables, the scores obtained from the six subscales were defined as the observed variables of student satisfaction and the scores obtained from the four subscales are described as the observed variables of resource management. Observed variables for the variable of metacognitive learning strategy were created by item parcelling. Exploratory factor analysis was performed for item parcels, and dyads with the lowest and highest factor loadings were assigned to each parcel considering the factor loadings of each item on the scale. Thus, a measurement model with a total of three latent variables and 13 observed variables were developed. The measurement model is shown in Figure 1.

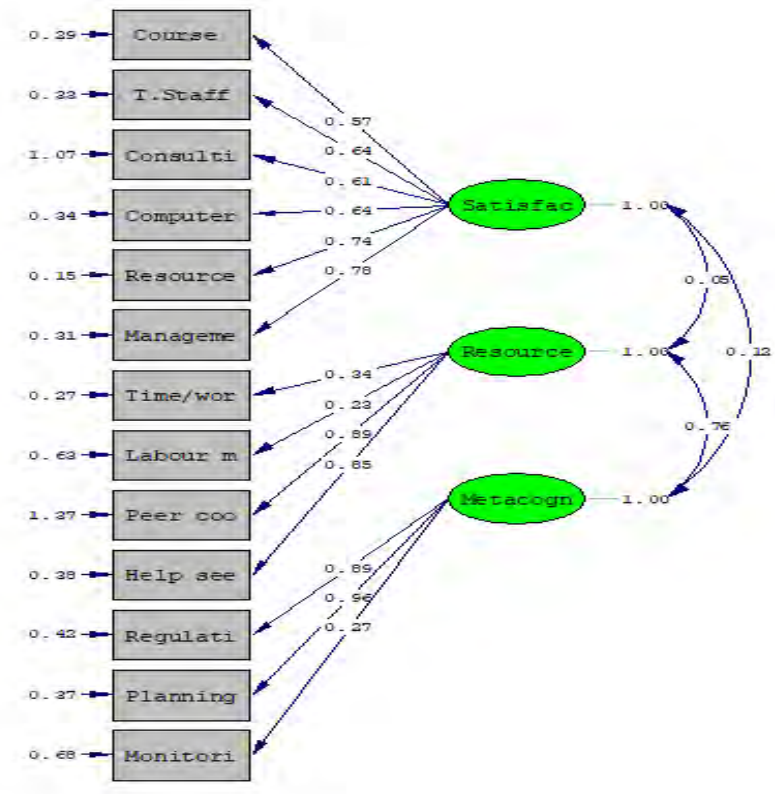

Figure 1: Measurement model.

The confirmatory factor analysis results, evaluated by RMSEA, SRMR, CFI and NNFI (TLI), fit indices as well as x^2/df value; these are among the indices considered sufficient to be reported in the fit indexes (İlhan & Çetin, 2014). Accordingly, the fit indices of the study were determined as [x^2/ df=4.70, p <0.00], NNFI=0.91, CFI=0.88, RMSEA=0.08, and SRMR=0.06. Of the determined fit indices, the NNFI value being in the range of 0.90 to 0.95 is the indicator of the acceptable fit of the model (Marsh et al., 2006). If the CFI value is greater than 0.90, it is accepted as an indicator of the acceptable fit (Marsh et al. 2006). However, some researchers consider 0.80 as the limit for the CFI value (Büyüköztürk et al., 2004). The chi-square value was found to be significant at x^2=291.75,p<0.00. Because the chi-square value was significant, x2/df value was examined and it was calculated as 291.75/62=4,70. The x^2/df value between 2 and 3 is an indication of the acceptable level of fit (Kline, 2011). Also, the x^2/df value being less than 5 indicates that the model is acceptable (Sümer, 2000). The acceptable fit range for RMSEA is 0.05 to 0.08 and for SRMR is between 0.05 and 0.10 (Browne & Cudeck, 1993). In addition, the t-values confirm the significance of the factor loadings and the correlations among the related variables and mean and standard deviation values were calculated and are presented in Table 1.

Table 1: ***Correlations Among the Variables, Mean and Standard Deviation Values***

	Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
Student satisfaction	1.Teaching staff	3.31	0.86	1												
	2.Consultancy services	3.07	1.20	.62**	1											
	3.Management	2.84	0.95	.60**	.43**	1										
	4.Resources	3.05	0.83	.61**	.38**	.76**	1									
	5.Computer facilities	3.13	0.86	.47**	.24**	.51**	.74**	1								
	6.Course/Course syllabi	3.13	0.78	.66**	.39**	.57**	.59**	.57**	1							
Resource management self-regulating	7.Time/working environment	4.45	0.62	.03	-.00	.00	-.08	-.03	-.02	1						
	8.Labour management	3.92	0.82	.01	.00	.13*	.07	.06	-.01	.31**	1					
	9.Peer cooperation	4.42	1.46	.02	-.07	.11*	.09	.04	-.03	.32**	.09	1				
	10.Help-seeking	4.55	1.04	.06	.06	.04	.00	-.01	-.02	.40**	.19**	.51**	1			
Metacognitive Self-regulating	11.Planning	5.14	1.13	.10	.08	.13*	.10*	.07	.06	.37**	.12*	.35**	.51**	1		
	12.Monitoring	4.23	0.86	-.00	-.04	.08	.07	.05	-.06	.30**	.46**	.22**	.17**	.24**	1	
	13.Regulating	5.26	1.10	.09	.04	.07	.02	.02	.04	.33**	.16**	.32**	.51**	.68**	.22**	1

In the following stage, a direct relationship between student satisfaction and metacognitive and resource management self-regulating learning strategies was tested, and the path coefficients indicating the relationship between them were found to be significant and at a low level with values of 0.13 and 0.05, respectively. The Path model is shown in Figure 2.

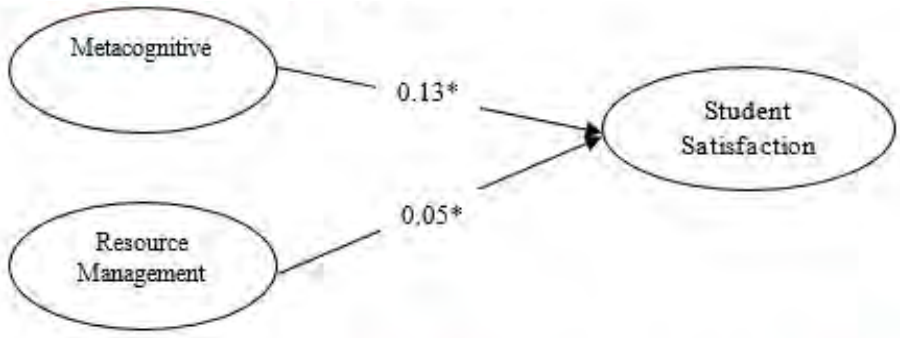

Figure 2: ***Path model showing the linear relationship between student satisfaction and metacognitive and resource management self-regulatory learning strategies.***

At this stage, the resource management self-regulating learning strategy was added as the mediator variable between student satisfaction and metacognitive learning strategies, and the structural equation modelling comprising the partial mediation relationship was tested. Fit indices of the model were found as x^2=291.75 p=0.00; x^2/df value was measured and calculated as 291.75/62=4.70. The others are NNFI=0.90, CFI=0.88, RMSEA=0.08, and SRMR=0.06. The obtained values show that the model has an acceptable goodness of fit (Browne & Cudeck, 1993; Büyüköztürk et al., 2004; Kline, 2011; Marsh et al., 2006; Sümer, 2000). The path model is illustrated in Figure 3.

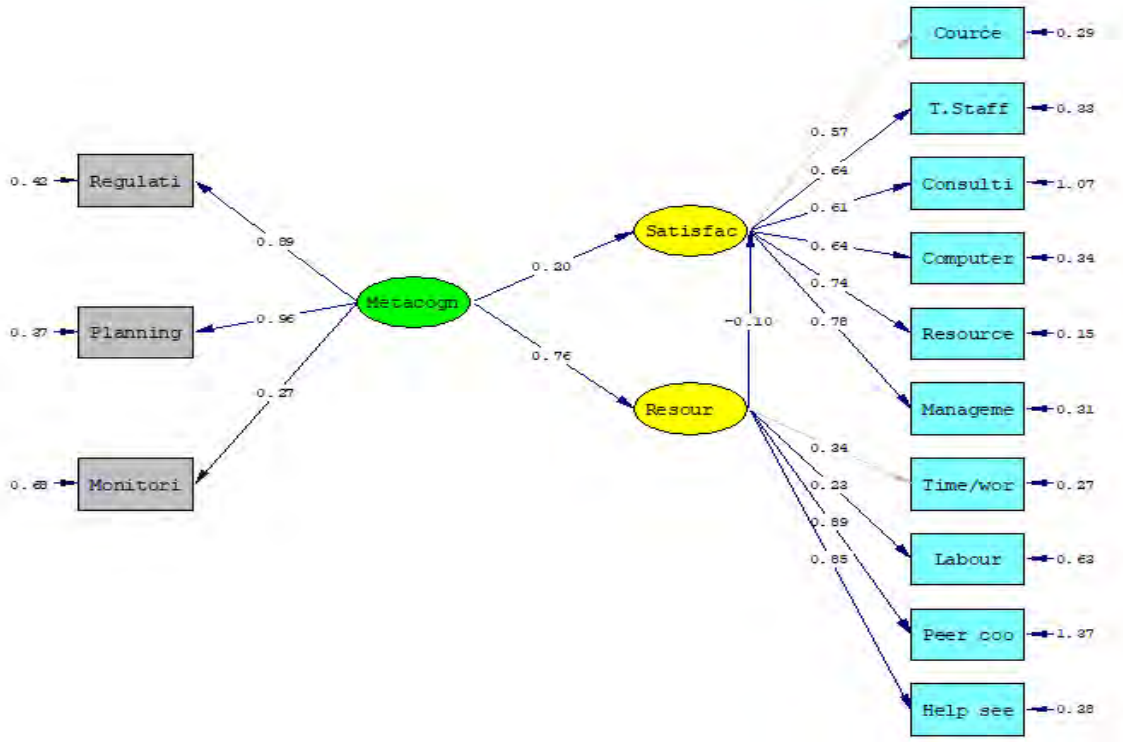

Figure 3: ***Path model showing the effect of resource management strategy as the mediator variable on student satisfaction.***

When the path model in Figure 2 is examined, it can be seen that the direct effect of metacognitive self-regulatory learning strategies on student satisfaction is 0.13, and when the path model in Figure 3 is examined, it is observed that the effect of metacognitive self-regulating learning strategy on student satisfaction rises to 0.20 if the resource management strategy is determined as the mediator variable. The relationship between the predictor and the dependent variables is expected to be insignificant or lower than the initial one in the models where the mediator variable is added (Şimşek, 2007). However, in the analysis, the low relationship between metacognitive learning strategy and student satisfaction, which was at a level of 0.13, did not decrease but increased with the addition of resource management to the model as the mediator variable. In this case, it can be put forward that resource management self-

regulating learning strategy has no mediating effect between metacognitive learning strategy and student satisfaction. The impact of metacognitive self-regulatory learning strategy on student satisfaction is low, and this effect does not stem from the mediation of resource management.

Discussion and Conclusion

In this study, whether resource management and metacognitive learning strategies, which belong to self-regulatory learning strategies in general, affected the students' satisfaction with the institution they studied was investigated, and a path model was established to determine the relationship between the variables mentioned. Research results show that metacognitive ($\beta = 0.13$) and resource management ($\beta = 0.05$) self-regulatory learning strategies affect student satisfaction significantly at a low level. In addition, the mediating effect of resource management self-regulatory learning strategy between metacognitive learning and student satisfaction was examined, but the indirect impact of resource management on student satisfaction was found to be significant. Therefore, it can be suggested that the resource management strategy has no mediating effect between metacognitive self-regulatory learning strategy and student satisfaction.

According to the results of the study, the questions posed while the path model of the study was developed can be answered as follows: it can be stated that a student who is able to act in accordance with the targets and plans that he has set, manage his own learning and follow his own learning process while learning a certain lesson or subject at university has a high perception of satisfaction related to the institution where he studies. Even though the impact level is very low, it can be suggested that the students who can use resource management strategies, such as being successful in managing their own learning time and working environment and using help-seeking strategies, are more satisfied with the institution where they are studying. As can be seen, these results indicate that competencies of university students in using self-regulating learning strategies in their courses can affect their satisfaction with the university where they study. This is like the results of the studies which were mostly conducted on online courses and examined the relationship between self-regulated learning strategies and student satisfaction.

A study by Eom (2014) examined the effects of motivation and self-regulatory learning strategies on university students' satisfaction and perceived learning outcomes in the context of the university's online courses through structural equation modelling. The results showed that intrinsic motivation and self-regulating learning strategies affected students' learning outcomes, and that there was a high correlation between learning outcomes and student satisfaction. A study by Lee (2009) revealed that self-regulated learning strategies were very effective in e-learning performance in online learning environments and that high-performance increased student satisfaction. Fuente et al. (2012) conducted a study which comprised university students as the sample and found that the teacher provided regulatory instruction, and that student satisfaction and meaningful leaning was achieved as a result of the use of a teaching model in which students used self-regulated learning strategies.

As seen in the results of the relevant studies conducted in the literature, student satisfaction is also affected by the learning characteristics of students, and at this point, it becomes crucial for students to use self-regulating learning strategies that enable them to regulate their own learning. On the other hand, Kuo etal. (2013) investigated the effect of different variables on student satisfaction in online learning environments and concluded that while student-teacher interaction, student-content interaction and student self-efficacy had an effect on student satisfaction, the use of self-regulatory learning strategies had no impact on student satisfaction. Similarly, in an experimental study, which investigated whether university students' use of self-regulatory learning strategies increased their academic achievement and student satisfaction, Man-Chih (2006) concluded that self-regulatory learning strategies had a significant positive effect on academic achievement whereas they had no impact on student satisfaction. Although no significant relationships were detected related to self-regulating learning strategies in these studies, it is stated that various variables regarding learning had an impact on student satisfaction. Therefore, it can be put forward that among the individual factors affecting student satisfaction, importance should be given to students' characteristics for their learning.

Today's university variety creates a chance for students to choose the universities where they will study. In this variety, being a university chosen by students is very important for the institution. The

administrators of higher education institutions, who are aware of this, should pay attention to the image of their universities (Kasalak et al., 2019). This situation causes competition among universities, and competition among universities puts university administrators in search of success. This quest shows students as customers (Yenen & Gözlü, 2003), and aims to make sure students are satisfied with the university in every respect. However, in this process, focusing on students' satisfaction with the school over their existing structures instead of investing in their cognitive and affective structure does not bring the student anything. A system that does not focus on student development can lead to too many expectations from lecturers for student satisfaction. However, the completion of each student's lack of lecturers, and the fact that the only criterion for student success and satisfaction is the success of the lecturer may decrease the satisfaction of the lecturers. It is thought that the satisfaction of the academic staff is reflected in the student satisfaction (Dalğar et al., 2019). For this reason, focusing on what students can gain in cognitive and affective aspects at universities will be reflected in the society as a contribution to students in the long term and will positively affect the school's perception of success. As a matter of fact, in this study it was concluded that being aware of students' own learning, controlling their own cognition and using self-regulatory learning strategies positively affects their satisfaction from the institution they are studying.

On the results achieved in the study, and in studies to be conducted to increase student satisfaction, it is considered important for universities to improve teaching-learning processes that will develop students to use self-regulated learning strategies. It can be suggested that the teaching models, in which faculty members make self-regulated teaching and students use self-regulated learning strategies, should be made widespread in the teaching-learning process of universities. In this respect, it may be recommended that universities provide the necessary in-service trainings to the instructors. In order to ensure student satisfaction, it can be suggested that the instructors focus on the cognitive quality of the students and teach to improve student self-regulation and metacognitive strategies.

In the competition between universities, it can be suggested that in order to increase the quality of the service provided to the student there is an expansion of services designed to facilitate the student to control and improve his/her cognitive structure and learning process. In addition, in the studies conducted on the factors affecting student satisfaction, the fact that a few studies were carried out based on the learning situations of the students reveals the gap in the literature. Therefore, in further studies, it is recommended to re-test the model presented in this study with different data collection tools and different samples, or to create new models containing these variables and related variables. Moreover, considering that the competition between schools is not only in universities today, it can also be suggested to examine the relationships between the students studying at different levels, their satisfaction with the institution they study at and the use of self-regulated learning strategies.

References

Akan, B. (2014). Toplam kalite yönetimi çerçevesinde öğrenci memnuniyeti: Namık Kemal Üniversitesi Hayrabolu Meslek Yüksekokulu uygulaması [Student satisfaction within the framework of total quality management: An application of Namık Kemal University Hayrabolu vocational school]. *Mehmet Akif ErsoyÜniversitesi Sosyal Bilimler Enstitüsü Dergisi, 6*(10), 106–123.https://dergipark.org.tr/en/download/article-file/181824

Ali, F., Zhou, Y., Hussain, K., Nair, P. K., & Ragavan, N. V. (2015). Does higher education service quality affect student satisfaction, image and loyalty? A study of international students in Malaysian public universities. *Quality Assurance in Education, 24*(1),70–94. https://doi.org/10.1108/QAE-02-2014-0008

Ataman, O., & Adıgüzel, A. (2019). Yükseköğretimde kalite algısı: Düzce Üniversitesi örneği [Quality perception in higher education: Sample of Duzce University]. *Elektronik Eğitim Bilimleri Dergisi, 8*(15), 39–56.

Awang, H., & Ismail, N.A. (2010). Undergraduate education: A gap analysis of students' expectations and satisfaction. *Problems of Education in the 21st Century, 21*, 21–28. http://oaji.net/articles/2014/457-1400135515.pdf

Aydemir, E. (2016). A new approach for ranking universities based on student satisfaction.*Yükseköğretim Dergisi, 6*(3), 128–141.

Aydın, S., Görmüş, A. Ş., & Altıntop, M. Y. (2014). Öğrencilerin memnuniyet düzeyleri ile demografik özellikleri arasındaki ilişkinin doğrusal olmayan kanonik korelasyon analizi ile incelenmesi: Meslek Yüksekokulu'nda bir uygulama [The relationship between the satisfaction level of students and their demographic features with non-linear canonical correlation analysis: An application in vocational high school]. *Abant İzzet Baysal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 14(*1), 35–58. *https://doi.org/10.11616/AbantSbe.475*

Baysal, N. Z., & Araç, K. E. (2019). Conditions determining quality in higher education: Factors affecting satisfaction levels of prospective teachers. *Universal Journal of Educational Research, 7*(1), 250–258. https://doi.org/10.13189/ujer.2019.070132

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A.Bollen, & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Sage.

Büyüköztürk, S., Akgün, Ö. E., Özkahveci, Ö., & Demirel, F. (2004). The validity and reliability study of the Turkish version of the motivated strategies for learning questionnaire. *Educational Sciences: Theory & Practice, 4*(2), 231–237.

Çalık-Var, E. (2013). Üniversite öğrencilerinde ve mezunlarında öğrenci sadakatini yordayan değişkenlerin yapısal eşitlik modellemesiyle incelenmesi [The investigation on determinants to predict the student loyalty of university students and alumnies by using structural equation model] [Doctoral dissertation, Ankara University]. https://en.academicresearch.net/the-investigation-on-determinants-to-predict-the-student-loyalty-of-university-students-and-alumnies-by-using-structural-equation-model/

Çokluk-Bökeoğlu, Ö., & Yılmaz, K. (2007). Üniversite öğrencilerinin fakülte yaşamının niteliğine ilişkin görüşlerinin çeşitli değişkenler açısından incelenmesi [Analysis of university students' views about the quality of faculty life using various variables]. *Ankara Üniversitesi Eğitim Fakültesi Dergisi, 40*(2), 179–204. https://doi.org/10.1501/Egifak_0000000171

Dalğar, H., Alparslan, A. M., & Sungur, O. (2019). Factors affecting academic staffs' university satisfaction: Comparison between vocational schools/faculties. *Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 9*(21), 412–420.

Dilşeker, F. (2011). *Devlet ve vakıf üniversitelerinde hizmet kalitesi, öğrenci memnuniyeti, imaj, sadakat ve tavsiye etme arasındaki ilişkinin*incelenmesi [A review of the relationship between service quality, student satisfaction, image, loyalty and recommendation] [Unpublished Master's thesis]. Uşak University.

Durak, H. Y. (2019). Examining the acceptance and use of online social networks by preservice teachers within the context of unified theory of acceptance and use of technology model. *Journal of Computing in Higher Education, 31,* 173–209. https://doi.org/10.1007/s12528-018-9200-6

Egelıoğlu, N., Arslan, S., & Bakan, G. (2011). *Hemşirelik öğrencilerinin memnuniyet durumlarinin akademik başarilari üzerine etkis*i [The effect of satisfaction status of nursing students on their academic achievement]. *Turkish Journal of Research & Development in Nursing, 13*(1), 14–24.

Elliot, K., & Healy, M. (2001). Key factors influencing student satisfaction related to recruitment and retention. *Journal of Marketing for Higher Education, 10*(4), 1–12. https://doi.org/10.1300/J050v10n04_01

Eom, S. B. (2014). Understanding e-learners' satisfaction with learning management systems. *Bulletin of the IEEE Technical Committee on Learning Technology, 16*(2), 3.

Eom, S. B., & Wen, H. J. (2006). The determinants of students' perceived learning outcomes and satisfaction in university online education: An empirical investigation. *Decision Sciences Journal of Innovative Education, 4*(2), 215–235. https://doi.org/10.1111/j.1540-4609.2006.00114.x

Fisher, M. J. (2007). Settling into campus life: Differences by race/ethnicity in college involvement and outcomes. *The Journal of Higher Education, 78*(2), 125–16.

Franklin, K. K., & Shemwell, D. W. (1995). *Disconfirmation theory: An approach to student satisfaction in higher education* [Paper presentation]. The Meeting of the Mid-South Educational Research Association Conference, Biloxi.

Fuente, J., Zapata, L., Martínez-Vicente, J. M., Cardelle-Elawar, M., Sander, P., Justicia, F., Pichardo, M. C., & García-Belén, A. B. (2012). Regulatory teaching and self-regulated learning in college students: Confirmatory validation study of the IATLP scales. *Electronic Journal of Research in Educational Psychology, 10*(27), 833–866.

Gediklioğlu, T. (2005). Avrupa birliği sürecinde eğitim sistemi: Sorunlar ve çözüm önerileri [Education system in the European Union process: Problems and solutions]. *Mersin Üniversitesi Eğitim Fakültesi Dergisi, 1*, 66–80.

Gülcan, Y., Kuştepeli Y., & Aldemir, C. (2002). Yükseköğretimde öğrenci doyumu: Kuramsal bir çerçeve ve görgül bir araştırma [Student satisfaction in higher education: A theoretical framework and empirical research]. *Süleyman Demirel University Journal of Faculty of Economic and Administrative Sciences, 7*(1), 99–114.

Hair J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. PrenticeHall.

İhtiyaroğlu, N. (2018). Can I grow up as an effective teacher? A mixed methodstudy. *Kuram ve Uygulamada Eğitim Bilimleri, 18*(3), 627–660.

İlhan, M., & Çetin, B. (2014). LISREL ve AMOS programlar ıkullanılarak gerçekleştirilen yapısal eşitlik modeli (YEM) analizlerine ilişkin sonuçların karşılaştırılması [Comparing the analysis results of the structural equation models (SEM) conducted using LISREL and AMOS]. *Eğitimde ve Psikolojide Ölçme ve Değerlendirme Dergisi*, *5*(2), 26–42. https://doi.org/10.21031/epod.31126

Karaoğlan Yılmaz, F. G., & Yılmaz, R. (2019). Impact of pedagogicagent-mediated metacognitive support towards increasing task and group awareness in CSCL. *Computers&* Education*, 134*, 1–14. https://doi.org/10.1016/j.compedu.2019.02.001

Kasalak G., Özcan M., & Dağyar M. (2019). Relationship between pre-service teachers' university image perceptions and student loyalty: A structural equation model. *Universal Journal of Educational Research,7*(2), 480–489.

Kilis, S., & Yıldırım, Z. (2018). Investigation of community of inquiry framework in regard toself-regulation, metacognition and motivation. *Computers & Education, 126*, 53–64.

Kline, R. B. (2011). *Principles and practice of structural equation modeling*. The Guilford Press.

Kuo, Y. C., Walker, A. E., Belland, B. R., & Schroder, K. E. (2013). A predictive study of student satisfaction in online education programs. *The International Review of Research in Open and Distributed Learning, 14*(1), 16–39. https://files.eric.ed.gov/fulltext/EJ1008076.pdf

Lau, L. K. (2003). Institutional factors affecting student retention. *Education, 124*(2), 243–253. https://www.uccs.edu/Documents/retention/2003%20Institutional%20Factors%20Affecting%20Student%20Retention.pdf

Man-Chih, A. (2006). *The effect of the use of self-regulated learning strategies on college students' performance and satisfaction in physical education* [Doctoral thesis, Australian Catholic University]. https://researchbank.acu.edu.au/cgi/viewcontent.cgi?article=1160&context=theses

Marsh, H.W., Hau, K.T., Artelt, C., Baumert, J., & Peschar, J.L. (2006). OECD's brief self-report measure of educational psychology's most useful affective constructs: Cross-cultural, psychometric comparisons across 25 countries. *International Journal of Testing, 6*(4), 311–360. https://doi.org/10.1207/s15327574ijt0604_1

Mete, H., Erdem, A., Uzal, G., Hüyük, D., & Altay, S. (2018). Öğrencilerin öğretim elemanı ve danışman memnuniyeti: Tekirdağ NKÜ Teknik Bilimler MYO örneği [Students' satisfaction of teaching staff and consultant: Tekirdağ NKÜ Technical Sciences Vocational school example]. *Kırklareli Üniversitesi Sosyal Bilimler Dergisi, 2*(2, Aralık), 27–42. https://dergipark.org.tr/tr/download/article-file/633627

Okogba, V. (2016). Quality in higher education: The need for feedback from students. *Journal of Education and Practice, 7*(32), 139–143. https://files.eric.ed.gov/fulltext/EJ1122512.pdf

O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge University Press.

Park, J., & Hee, J.C. (2009). Factors influencing adult learners' decision to drop out or persist in online learning. *Journal of Educational Technology and Society, 12* (2), 207–217.

Pintrich, P. R. (1999). The role of motivation in promoting and sustaining self-regulated learning. *International Journal of Educational Research, 31*(6), 459–470.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*, 549−563.

Pintrich, P. R., Wolters, C. A., & Baxter, G. P. (2000). Assessing metacognition and self-regulated learning. In G. Schraw & J. C. Impara (Eds.), *Issues in the measurement of metacognition* (pp. 43–97). Buros Institute of Mental Measurements. http://digitalcommons.unl.edu/burosmetacognition/3

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). *A manual for the use of the motivated strategies for learning*. ERIC. [ERIC Document Reproduction Service No. ED338122].

Puzziferro, M. (2008). Online technologies self-efficacy and self-regulated learning as predictors of final grade and satisfaction in college-level online courses. *The American Journal of Distance Education, 22*(2), 72–89.

Şahin, A. E. (2009). Eğitim fakültesinde hizmet kalitesinin eğitim fakültesi öğrenci memnuniyet ölçeği ile değerlendirilmesi [Assessing service quality in faculty of education via student satisfaction scale (FE-SSS)]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 37*, 106–122.

Sener, J., & Humbert, J. (2003). Student satisfaction with online learning: An expanding universe. In J. Bourne & J. C. Moore (Eds.), *Elements of quality online education: Practice and direction.* (pp. 245–260). Sloan Center for Online Education.

Şimşek, Ö. F. (2007). Yapısal eşitlikmodellemesine giriş: (Temel ilkeler ve LISREL uygulamaları) [Introduction to structural equation modeling: (Basic principles and LISREL applications)]. Ekinoks.

Suhre, C. J. M., Jansen, E. P. W. A., & Harskamp, E. G. (2007). Impact of degree program satisfaction on the persistence of college students. *Higher Education, 54* (2), 207–226. https://doi.org/10.1007/s10734-005-2376-5

Sümer, N. (2000). Yapısal eşitlik modelleri: Temel kavramlar ve örnek uygulamalar [Structural equation modeling: Basic concepts and applications]. *Türk Psikoloji Yazıları, 3*(6), 49–74.

Uygur, M., & Yelken, T. Y. (2017). Sınıf öğretmenliği adaylarının memnuniyet düzeyleri ve gelecek beklentisi algılarının incelenmesi: Mersin Üniversitesi örneği [Analysing the prospective primary school teachers' satisfaction level and their perception of future expectation: Mersin University sample]. *Yükseköğretim Dergisi, 7*(1), 1–9.

Uzgören, N., & Uzgören, E. (2007). Dumlupınar Üniversitesi lisans öğrencilerinin memnuniyetini etkileyen bireysel özelliklerin istatistiksel analizi-hipotez testi, ki-kare testi ve doğrusal olasılık modeli. [The statistical analysis of the personal characteristics affecting the satisfaction of the undergraduates in Dumlupinar University-hypothesis testing, chi-square test and linear probability model]. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi, 17*, 173–193.

Veltri, S., Banning, J., & Davies. T. G. (2006). The community college classroom environment: Student perceptions. *College Student Journal, 40*, 517–527.

Wei, C. C. & Ramalu, S. S. (2011). Students satisfaction towards the university: Does service quality matters? *International Journal of Education, 3*(2), E15. https://doi.org/10.5296/ije.v3i2.1065

Weinstein, C. E., & Mayer, R. E. (1986). The teaching of learning strategies. In M. C. Witrock (Ed.), *Handbook of research on teaching* (pp. 315–327). MacMillan.

Wiers-Jenssen, J., Stensaker, B., & Grøgaard, J. B. (2002). Student satisfaction: Towards an empirical deconstruction of the concept. *Quality in Higher Education, 8*(2), 183–195. https://doi.org/10.1080/1353832022000004377

Yenen, V. Z., & Gözlü, S. (2003). Customer expectations in higher education: Examples from Turkey. *İtüdergisi/d, 2*(2), 28–38.

Yılmaz, R. (2017). Exploring the role of e-learning readiness on student satisfaction and motivation in flipped classroom. *Computers in Human Behavior, 70*, 251–260. https://doi.org/10.1016/j.chb.2016.12.085

Zimmerman, B. J., & Risemberg, R. (1994). Investigating self-regulatory processes and perceptions of self-efficacy in writing by college students. In P. R. Pintrich, D. R. Brown, & C. E. Weinstein (Eds.), *Student motivation, cognition, and learning* (pp. 239–256). Taylor & Francis.