

## The Predictive Power of Students' Metacognition and Their Perceptions of Instructional Competencies of Instructors on Academic Life Satisfaction

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### Abstract

Change and development in university education is shaped by a complex interplay of environmental factors and individual efforts. Students' awareness of their cognitions, the instructors they interact with, and their qualifications play an essential role in this development and change process and determine academic life satisfaction. This study aims to assess the metacognitive skill perception of university students and their perceptions of instructors' instructional competencies and to reveal the predictive power of these two variables on academic life satisfaction. The practical implications of this study can empower educators and students to enhance academic life satisfaction. Based on the relational survey model, the data were obtained from 405 students at the Faculty of Humanities and Social Sciences at a state university in Türkiye. Academic Life Satisfaction Scale, Metacognitive Skill Perceptions Scale, and Instructor's Instructional Competence Scale were used to collect data. In the data analysis, the Pearson Product Moment Correlation coefficient was calculated to examine the relationship between the scores obtained from the scales. Hierarchical Regression Analysis was used to solve the sub-problems related to prediction. The hierarchical regression included the student's achievement perception as a control variable. As a result of the data analysis, it was identified that there was a moderate positive significant relationship between students' academic life satisfaction and their perception of instructors' instructional competencies and metacognitive skill perception levels. When the students' achievement perceptions were controlled, it was determined that metacognitive skill perception explained 15% of academic life satisfaction. When achievement perception and metacognitive skill perception were controlled, it was found that the perception of the instructor's instructional competence explained 10% of academic life satisfaction. Based on the research findings, it was concluded that the effect of students' metacognitive skill perception on academic life satisfaction was higher than their perceptions of the instructor's instructional competence.

**Keywords:** Metacognition, instructional competence, academic life satisfaction.

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## Introduction

University education contributes to individuals' personal, professional, and social development. Gaining expertise in a specific field, establishing professional relationships, and making a career plan can be counted among the achievements of university education. In addition, it is also possible for individuals to realize their talents, develop high-level thinking skills, and benefit society and the economy through the profession they will acquire. For individuals to achieve these outcomes through university education, the environment is expected to support academic development and provide a pleasant learning experience. Academic life satisfaction is defined as a university student's fulfillment of academic duties and responsibilities targeted in school life and being satisfied and happy with the environmental factors in the school environment to the expected degree (Kumar & Dileep, 2006). This concept also reflects general satisfaction with the academic environment and adaptation to campus life (Nogueira, 2018). High life satisfaction at university has been found to positively affect students' academic performance, emphasizing the link between satisfaction and achievement (Caz & Hacicaferoğlu, 2018). Moreover, satisfaction with one's academic life is a worthwhile goal and leads to other positive outcomes, such as perseverance in one's academic pursuits (Lent et al., 2007).

Academic life satisfaction may vary with students' experiences, expectations, and goals. In particular, students' metacognitive awareness can impact their life satisfaction (Abdelrahman, 2020; Eskandari et al., 2020; Hayat et al., 2019; Spada & Moneta, 2013). However, external factors, as well as internal factors, have an impact on the academic life satisfaction perceived by the individual. Social support from teachers (Erdoğan, 2021; Foroughi et al., 2021; Hernández et al., 2022), family influence (Çetinceli & Acar, 2022; Xiao et al., 2008), teaching competence (Baños et al., 2019; Huamán et al., 2022; Iqbal et al., 2019; Pavin Ivanec & Defar, 2023) are among these variables. Research on academic life satisfaction generally addresses various factors that affect students' satisfaction with their university experience. In addition to academic performance, general well-being, and academic success (Clarke et al., 2023), the mediating role of academic motivation in the relationship between attachment styles and life satisfaction has also been investigated (Erzen & Çıkrıkçı, 2022). Research has shown that understanding and increasing academic life satisfaction among students involves multiple factors, including well-being, academic experiences, and personal motivations.

In this study, students' metacognitive skill perception and instructors' instructional competencies are considered variables potentially affecting academic life satisfaction. In the literature, some studies separately examine the relationship between the variables of this study: metacognitive skill perception and instructor instructional competencies with academic life satisfaction. However, there has not yet been a study to reveal the effect of these variables on academic life satisfaction and the contribution of each variable to academic life satisfaction. In addition, in this study, it can be considered as one of the original aspects of the study that the variable of metacognitive skill perception, which is one of the internal factors thought to affect academic life satisfaction, and the variable of instructor's instructional competence, which is one of the external factors, were examined together with hierarchical regression analysis.

### **Relationship Between Metacognitive Awareness and Academic Life Satisfaction**

Metacognitive awareness can contribute to university students in terms of academic achievement, emotional well-being, and overall life satisfaction. Students with high Metacognitive awareness have self-regulation skills and can understand and manage their thinking processes. Metacognitive awareness also supports the development of essential skills such as time management, goal setting, and planning learning strategies. Students who develop metacognitive awareness skills can be expected to have a more qualified academic experience and increase academic life satisfaction. Metacognition, often defined as 'thinking about thinking,' encompasses a series of cognitive processes involving monitoring, organizing, and evaluating one's thinking and learning activities (Scott & Levy, 2013). Metacognitive knowledge, which refers to individuals' conscious understanding of their cognitive capacities and their regulation of these activities through self-monitoring, plays a vital role in developing competence and learning autonomy (Banna et al., 2016). Metacognitive knowledge enables individuals to monitor and evaluate their learning goals, allowing them to take control of their learning processes and make informed decisions about their academic pursuits (Hamiddin & Saukah, 2020). In academic settings, metacognition strongly predicts learning outcomes and academic achievement (Veenman et al., 2006).

Students who engage in metacognitive practices such as monitoring their understanding, setting learning goals, and evaluating their progress exhibit higher academic achievement and performance (Pelton, 2019).

Metacognitive skills help students manage their learning processes better but also help them cope with stress and increase their motivation. Efklides (2006) points out that metacognitive skills enable students to be more flexible and adaptable to learning processes. Bransford et al. (2000) emphasize that metacognitive skills help students learn how to learn in a world that requires continuous education and skill development. Pintrich (2002) states that metacognitive awareness helps students to develop a more positive attitude toward learning and to be more determined in the face of difficulties. Zeidner et al. (2000) have shown that metacognitive awareness contributes to developing students' stress management skills.

Individuals' metacognition begins to develop early (Flavell, 1979; Wellman, 1985), and their awareness increases with adolescence (Kuhn, 2000). However, the importance of providing training and guidance for developing metacognitive skills has been emphasized (Brown, 1987; Schraw & Moshman, 1995). In particular, constructive feedback (Hattie & Timperley, 2007), reflective journals (Boud et al., 1985; Moon, 1999), cooperative learning environments (Johnson et al., 1998), teaching-learning strategies (Weinstein & Mayer, 1986) and incorporating digital learning tools into the learning environment (Azevedo & Cromley, 2004) are important in developing metacognitive skills and awareness. To develop metacognitive skills, trainers should conduct applied studies through various strategies and approaches to systematically support individuals. Studies on university students' metacognitive awareness include metacognitive skills, reading strategies, procrastination, and their effects on academic performance. Studies have shown that metacognitive awareness is critical in academic achievement (Khan et al., 2023; Khurram, 2023; Nguyen et al., 2023; Nisrina, 2023). The results of studies examining the relationship between academic life satisfaction and metacognition in the literature show that students with metacognitive skills and awareness have higher academic life satisfaction (Artino & Stephens, 2009).

### **The Relationship Between Instructor Instructional Competence and Academic Life Satisfaction**

University lecturers have different responsibilities, such as education, research, social service, and administrative duties. They are expected to provide students with academic knowledge and skills through their teaching courses. The effectiveness of this process is possible with the instructional competencies they possess. These competencies include following current knowledge in the field and using it in their courses (Biggs & Tang, 2011), creating learning environments that encourage students' active participation in the courses (Freeman et al., 2014), contributing to students' development by providing regular and constructive feedback to them (Black & Wiliam, 1998), knowing and applying online and hybrid teaching methods (Garrison & Vaughan, 2008).

The lecturers' qualifications can potentially support students' development in many ways. In particular, they can directly affect students' academic achievement, personal development, and overall university experience. According to Biggs (1999), faculty members' expertise in their fields increases students' motivation to learn and improves their academic performance. According to Ramsden (2003), faculty members' ability to plan and deliver lectures effectively increases students' interest and participation in the course. According to Komives et al. (2007), faculty members' leadership and role-modeling skills contribute to students' personal and professional development. At the same time, faculty members who provide emotional support and empathy help students cope with academic stress and become more motivated to learn (Meyer & Turner, 2006). Teacher professionalism and teaching quality affect student satisfaction (Baños et al., 2019). Sopiiah et al. (2020) emphasize the lecturer's commitment to academic success in increasing student satisfaction. Long et al. (2013) have found that lecturers' competencies, such as subject knowledge, clarity of presentation, interaction with students, creativity, clarification of learning outcomes, classroom activities, and lecture notes, are positively related to student satisfaction.

In the university education process, lecturers have the potential to influence students in many ways. In particular, instructors' instructional competencies are important for students' success and development. Providing a quality education and training experience contribute to students' academic and personal development. It is thought that this situation may enable students to have rich learning experiences,

increase their self-confidence, and thus, increase their academic life satisfaction. In this context, the instructional competence of instructor was examined as an external variable affecting academic life satisfaction.

**Purpose of the Study**

This study aims to examine the relationships between university students' academic life satisfaction, their perceptions of metacognitive skills, and their perceptions of instructors' instructional competencies and to reveal the predictive power of these variables individually and together on academic life satisfaction. In addition, "student achievement perception" was taken as a control variable in the study. A significant relationship between academic achievement and academic life satisfaction or general life satisfaction (Atasever et al., 2023; Bahar & Abdramanova, 2023; Balkıs & Duru, 2017; Caz & Hacifaferoğlu, 2018; Odacı et al., 2021; Ojeda et al., 2011; Schimmack et al., 2002; Turan, 2021; Vautero et al., 2021) was determined by various studies in the literature. In addition, there is a significant relationship between academic achievement and metacognitive awareness (Artino & Stephens, 2009; Pavin Ivanec & Defar, 2023; Wang et al., 1990). Based on the research results in the literature, "student achievement perception" was used as a control variable in the hierarchical regression analysis. For this purpose, answers to the following research questions were sought:

1. What are university students' levels of academic life satisfaction, metacognitive skill perception, and their perceptions of instructors' instructional competencies?
2. What is the relationship between university students' metacognitive skill perception, their perceptions of instructors' instructional competencies, and academic life satisfaction?
3. To what extent does metacognitive skill perception predict academic life satisfaction when students' achievement perceptions are controlled?
4. To what extent do students' perceptions of instructors' instructional competencies predict academic life satisfaction when students' perceptions of achievement and metacognitive skill perception are controlled?

**Method**

**Research Design**

This study used the relational survey model to determine university students' metacognitive skill perception and perceptions of instructors' instructional competencies and reveal their predictive power on academic life satisfaction. The effect of the three models proposed in Table 1 on academic life satisfaction was determined by hierarchical regression analysis.

Table 1.  
Research Model for Hierarchical Regression Analysis

Independent variables	Dependent variable
Model 1 Achievement Perception of the Student	
Model 2 Achievement Perception of the Student Perception of Metacognitive Skills	Academic Life Satisfaction
Model 3 Achievement Perception of the Student Perception of Metacognitive Skills Perception of Instructor's Instructional Competence	

**Population and Sample**

The study population of the research consists of 5206 undergraduate students studying at the Faculty of Humanities and Social Sciences of a state university. The sample size that can represent this population (Büyükoztürk et al., 2020) should be at least 357 according to a 5% margin of error. The 405 students reached through convenience sampling represented the study population. Demographic information about the sample is presented in Table 2.

Table 2.  
Demographic Characteristics of Students

Variables		N	%
Gender	Female	229	76.8
	Male	176	23.2
Grade	Second Grade	165	40,7
	Third Grade	132	32,6
	Fourth Grade	108	26,7
Department	Turkish Language Literature	165	40.8
	English Language and Literature	111	27.4
	Sociology - Philosophy	56	13.4
	History-Geography	75	18.4
Achievement Perception of the Student	Low	51	12.6
	Middle	288	71.1
	High	66	16.3

### Data Collection Tools

*Personal Information Form:* The form aims to collect data on the independent variables of the scale and identify the sample in terms of personal characteristics. The form includes questions about the variables such as gender, department, grade, and perception of academic achievement of the participants.

*Academic Life Satisfaction Scale:* The scale developed by Nogueira et al. (2019) and adapted by Odacı et al. (2021) aims to identify the academic life satisfaction of individuals. The 5-point Likert-type scale consists of 8 items and two dimensions. It was determined that the two sub-dimensions explained 57.2% of the total variance. The internal consistency coefficient of the "Personal Satisfaction" dimension was .78, the internal consistency coefficient of the "Satisfaction with Academic Environment" dimension was .73 and the internal consistency coefficient for the overall scale was .82. For this research, goodness-of-fit statistics were  $\chi^2/sd=2.18$ , GFI=0.98, CFI=0.98, AGFI=0.95, NFI=0.96, RMSEA=0.05 and SRMR=0.03. The internal consistency coefficient for the "Personal Satisfaction" dimension was .59, the internal consistency coefficient for the "Satisfaction with the Academic Environment" dimension was .73, and the internal consistency coefficient for the overall scale was .72.

*Metacognitive Skill Perceptions Scale:* This scale was developed by Demir (2013) to measure prospective teachers' metacognitive skill perception levels. As a result of the analyses, a 14-item scale consisting of "Evaluation," "Organizing," and "Planning" sub-dimensions was formed. Cronbach Alpha internal consistency coefficients for the dimensions explaining 53% of the total variance were .89 in total, .87 in the first factor, .65 in the second factor, and .70 in the third factor. For this research, goodness-of-fit statistics were  $\chi^2/sd=2.30$ , GFI=0.94, CFI=0.94, AGFI=0.92, NFI=0.90, RMSEA=0.05 and SRMR=0.05. As a result of the confirmatory factor analysis, it was determined that the fit index values of the model complied with the criteria. Cronbach Alpha internal consistency coefficients were calculated as .78 in total, .68 in the first, .61 in the second, and .66 in the third.

*Instructor's Instructional Competence Scale:* The scale developed by Balı (2015) to determine the perceptions of Faculty of Education students about the instructional competencies of instructors consists of 17 items and a single dimension. It was determined that this single dimension explained 51.3% of the total variance. The Cronbach Alpha reliability coefficient calculated to determine the internal consistency of the scale, which was graded on a 5-point Likert scale, was found to be .94. For this research, goodness-of-fit statistics were  $\chi^2/sd=3.23$ , GFI=0.90, CFI=0.95, AGFI=0.87, NFI=0.93, RMSEA=0.07, and SRMR=0.05. Cronbach's Alpha was .87.

### Data Collection Process

Ethical permission for this research was obtained from Pamukkale University Social and Human Sciences Research Ethics Committee with the decision dated 22.04.2024 and numbered E-93803232-622.02-520236. Before the data collection tools were distributed to the students, the researcher stated that participation in the study was voluntary. The students filled out the form containing the items on the three scales face to face. It took approximately 35 minutes for the students to fill in the scales. While answering the items of the Instructor Instructional Competence Scale, students were asked to evaluate all instructors in their courses holistically.

### Data Analysis

Before analyzing the data set, missing data, univariate and multivariate normality, outliers, and multicollinearity values were examined. When the skewness and kurtosis coefficients of the scales used in the study were examined, it was found that the skewness and kurtosis values were between -0.023 and -0.426 (Table 3). According to Tabachnick and Fidell (2013), these values are among the average distribution values. The following evaluation intervals were used for the arithmetic mean scores of the answers given by the students to the scale items: '1.00-1.79=Never', '1.80-2.59=Rarely', '2.60-3.39=Sometimes', '3.40-4.19=Frequently', '4.20-5.00=Always'.

Pearson product-moment coefficient was calculated to examine the relationship between the scores obtained from the scales. Scatter diagrams were examined to determine whether a linear relationship existed between the variables, and linearity was observed. In addition, 'Mahalanobis distance values' were examined for extreme values. It was seen that there were significant relationships between the variables of the study, and there was no correlation between the variables of .85 and above (Table 4). This indicates that there is no multicollinearity problem. In addition, VIF and Tolerance values were examined to examine the multicollinearity problem. It was found that VIF values ranged between 1.011 and 1.225, and Tolerance values ranged between .81 and .98. These values were found to be within the acceptable range of being less than 10 for VIF and more significant than .10 for Tolerance (Tabachnick & Fidell, 2013). These results indicated that there was no multicollinearity problem. Durbin-Watson=1.929, and since this value was more significant than one, it was understood that there was no autocorrelation problem between the variables. Thus, it was determined that the necessary prerequisites for regression analysis were found. Through hierarchical regression analysis, it was determined whether academic life satisfaction was predicted by the variables of metacognitive skills perception and perception of the instructor's instructional competence.

### Findings

#### University Students' Academic Life Satisfaction, Metacognitive Skills Perception and Perception Levels of Instructional Competencies of Instructors

Arithmetic mean and standard deviation values were calculated for the entire scale to determine the student's perceptions of the study variables. The results obtained in this context are presented in Table 3.

Table 3.  
Descriptive Data on Variables

Variables	$\bar{X}$	SD	Min.	Max.	Skewness	Kurtosis
1- Metacognitive Skill Perceptions Scale (MSPS)	3.91	0.43	2.86	5	-0.023	-0.426
2- Instructor's Instructional Competence Scale (IICS)	3.61	0.57	2.12	5	-0.123	-0.303
3- Academic Life Satisfaction Scale (ALSS)	3.49	0.60	2.00	5	-0.076	-0.138

When Table 3 is examined, the arithmetic means of the students' metacognitive skills perception scale ( $\bar{X} = 3.91 + .43$ ), perception scale of instructor instructional competencies ( $\bar{X} = 3.61 + .57$ ), and academic life satisfaction scale ( $\bar{X} = 3.49 + .60$ ) scores are at a high level.

#### The Relationship Between University Students' Perceptions of Metacognitive Skills, Perceptions of Instructional Competencies of Instructors, and Satisfaction with Academic Life

Pearson product-moment correlation coefficient was calculated to answer the research question: What is the relationship between university students' perceptions of metacognitive skills, their perceptions of instructors' instructional competencies, and their academic life satisfaction? The correlation values of the research variables are presented in Table 4.

Table 4.  
Correlation Analysis Results between Variables

Variables	1	2	3
1 Academic Life Satisfaction	1	0.427*	0.447*
2 Metacognitive Skill Perception		1	0.387*
3 Instructor's Instructional Competence			1

\* $p < 0.01$

When the Pearson Correlation Coefficients presented in Table 4 are examined, it is seen that there is a moderate positive significant relationship between the total score of the academic life satisfaction scale and the total score of the metacognitive skill perceptions scale ( $r = 0.427, p < 0.01$ ) and the perception scale score of the instructor's instructional competence ( $r = 0.447, p < 0.01$ ). In addition, there is a significant positive relationship between the total scale score of academic life satisfaction perception and the total score of the perception scale of the instructor's instructional competence ( $r = 0.387, p < 0.01$ ). In this context, it can be said that the variables of the study mutually affect each other positively.

**Hierarchical Regression Analysis of Academic Life Satisfaction**

Hierarchical Regression Analysis was conducted to determine the effect of metacognitive skill perception and their perception of instructor's instructional competence on students' academic life satisfaction. The student's perception of achievement was included in the analysis as a control variable in the form of 'low achievement' (Low A), 'medium,' and 'high achievement' (High A) (dummy variable).

Table 5.  
Hierarchical Regression Analysis Predicting Academic Life Satisfaction

	Academic Life Satisfaction									
	B	SE	$\beta$	<i>t</i>	<i>p</i>	<i>C.R</i> <sup>2</sup>	$\Delta R^2$	<i>F</i>	<i>p</i>	95.0% CI
<b>Model-1</b>										
(Constant)	27.671	.263		105.239	.000					27.15-28.18
Low A.	-2.861	1.044	-.134	-2,741	.006	0.069	0.073	15.628	.000	-4.91-(-0.80)
High A.	2.859	.628	.222	4.556	.000					1.62-4.09
<b>Model-2</b>										
(Constant)	10.357	2.003		5.171	.000					6.41-14.29
Low A.	-1.763	.965	-.082	-1.826	.069	0.217	0.150	37.678	.000	-3.66-(-0.13)
High A.	1.838	.587	.143	3.131	.002					0.68-2.99
MSPS	.318	.037	.400	8.709	.000					0.24-0.39
<b>Model-3</b>										
(Constant)	5,462	1,979		2,760	.006					1.57-9.35
Low A.	-1,233	,905	-,058	-1,362	.174					-3.01-0.54
High A.	1,725	,549	,134	3,142	.002	0.316	0.100	46.817	.000	0.64-2.80
MSPS	,218	,037	,273	5,945	.000					0.14-0.28
IICS	,169	,022	,343	7,607	.000					0.12-0.21

\* $p < 0.01$

When the hierarchical regression analysis results presented in Table 5 are analyzed, students' "perceptions of success" were included in Model 1 as the control variable. Model 1 was found significant at  $p < 0.01$  significance level. This model explains 7% of academic life satisfaction. When the values presented in Table 3 are analyzed, it is determined that there is a positive and significant relationship between having a high perception of achievement and academic life satisfaction ( $\beta = 0.222, p < 0.01$ ). In addition, a negative and significant relationship existed between low achievement perception and academic life satisfaction ( $\beta = -0.134, p < 0.01$ ). In this context, it can be pointed out that as the perception of low achievement increases, academic life satisfaction decreases. In contrast, academic life satisfaction increases as the perception of high achievement increases.

In Model 2, metacognitive skill perception was included. It was determined that the metacognitive skill perception variable significantly increased the  $R^2$  value ( $\Delta R^2 = 0.150, p < 0.01$ ). According to the results, the regression model is significant ( $p < 0.01$ ). This model explains 21.7% of the total academic life satisfaction. In Model 2, when the metacognitive skill perception variable is included, the  $\beta$  coefficient of the low achievement perception variable is insignificant ( $\beta = -0.082, p > 0.05$ ). Metacognitive skill perception and perception of high achievement were found to have significant  $\beta$  coefficients ( $\beta = 0.400, p < 0.01$ ;  $\beta = 0.143, p < 0.01$ , respectively). While Model 1 explained 7% of academic life satisfaction, this effect increased to 21.7% in Model 2. When students' perception of achievement is controlled, the metacognitive skill perception variable alone explains 15% of academic life satisfaction. This indicates that metacognitive skill perception is highly influential on academic life satisfaction.

In Model 3, the variable of perception of the instructor's instructional competence was included in the model. The  $R^2$  value of the new model increased significantly ( $\Delta R^2 = 0.100, p < 0.01$ ). The new model is

statistically significant. This model found that the perception of low achievement had no significant effect on academic life satisfaction ( $\beta=-0.058, p>0.05$ ). In order of importance, the variables of perception of instructor's instructional competence, perception of high achievement, and perception of metacognitive skills ( $\beta=0.343, p<0.01$ ;  $\beta=0.273, p<0.01$ ;  $\beta=0.134, p<0.01$ , respectively) were included in the model. In Model 3, 31.6% of the total change in academic life satisfaction can be explained. While Model 2 explained 21.7% of academic life satisfaction, it was found that this effect increased to 31.6% in Model 3 with the inclusion of the variable perception of the instructor's instructional competence. As a result of the analysis, when 'perception of achievement' and 'metacognitive skill perception' variables were controlled, it was determined that student perception of the instructor's instructional competence alone explained 10% of academic life satisfaction. In this context, it can be concluded that student perception of an instructor's instructional competence also positively affects academic life satisfaction.

### Discussion, Conclusion, and Suggestions

According to the results of Model 1 of the hierarchical regression analysis, it was concluded that student achievement perception, included in the study as a control variable, explained 7% of academic life satisfaction and that achievement perception is an important variable affecting academic life satisfaction. Based on the research findings, it can be stated that students with high achievement perception have higher academic life satisfaction. As their achievement perception decreases, academic life satisfaction also decreases. Many research results also support this finding. Suldo et al. (2008) identified academic achievement and social engagement as predictors of life satisfaction among university students. Studies show that there is a positive relationship between students' academic achievement and life satisfaction and that academic achievement is among the critical variables affecting life satisfaction (Atasever et al., 2023; Bahar & Abdramanova, 2023; Balkıs & Duru, 2017; Caz & Hacicaferoğlu, 2018; Odacı et al., 2021; Ojeda et al., 2011; Schimmack et al., 2002; Turan, 2021; Vautero et al., 2021).

According to the results of Model 2 of the hierarchical regression analysis, when the metacognitive skill perception variable is included in the student achievement perception variable, the rate of explaining academic life satisfaction and achievement perception increases from 7% to approximately 22%. Based on this finding, it is concluded that metacognitive skill perception significantly contributes to academic life satisfaction. Including the metacognitive skill perception variable in the analysis transformed the effect of the low achievement perception variable into statistically insignificant ( $\beta=-0.082, p>0.05$ ). In this context, it can be stated that the effect of metacognitive skill perception on academic life satisfaction is greater than that of low achievement perception. According to the findings obtained as a result of the analysis of the data, there is a significant positive relationship between academic life satisfaction and metacognitive skill perception at a moderate level ( $r = 0.427, p<0.01$ ). When achievement perception is controlled, metacognitive skill perception alone explains 15% of academic life satisfaction. Based on the findings, it was concluded that the power of metacognitive skill perception to affect academic life satisfaction was higher than student achievement perception. Studies examining the relationship between metacognitive awareness and academic life satisfaction (Abdelrahman, 2020; Hayat et al., 2019; Eskandari et al., 2020; Spada & Moneta, 2013) support this conclusion. Artino and Stephens (2009) found that using metacognitive strategies increased academic performance and life satisfaction. Metacognitive awareness enables students to engage in self-regulated learning, leading to improved academic outcomes and satisfaction with their academic progress (Asy'ari, 2023). Research also shows that metacognitive awareness positively affects students' academic self-efficacy and increases their overall satisfaction with their academic endeavors (MacKewn et al., 2022). Students who demonstrate high levels of metacognitive awareness are more likely to adopt effective study habits, which in turn facilitate a deeper understanding of the academic content and greater satisfaction with their learning journey. (Irwan et al., 2023). Consequently, promoting metacognitive awareness among university students can positively influence their achievement, motivation, and life satisfaction.

Another study found a moderate positive relationship ( $r = 0.447, p<0.01$ ) between academic life satisfaction and student perception of the instructor's instructional competence. Pavin Ivanec and Defar (2023) also found that teachers' competencies, including subject knowledge, presentation skills, and student interaction, significantly affect students' satisfaction and academic achievement. According to the findings of Model 3 of the hierarchical regression analysis, when the variable of perception of instructor's instructional competence was included in the variable of student perception of achievement



and metacognitive skill perception, the rate of explaining academic life satisfaction increased from 22% to approximately 32%. When the variables of achievement perception and metacognitive skill perception were controlled, it was found that the perception of the instructor's instructional competence alone explained 10% of academic life satisfaction. Based on this finding, it was concluded that the perception of the instructor's instructional competence alone significantly affects academic life satisfaction. Braun and Leidner (2009) emphasized the importance of competence in shaping academic course satisfaction and stated that especially teaching behavior affects students' satisfaction levels in the academic environment. The study by Baños et al. (2019) determined that teaching competence and satisfaction with the school environment predicted student satisfaction. Similarly, Sopiah et al. (2020) found that instructor competence directly affects perceived teaching quality and student satisfaction. Research shows that innovative teaching approaches can improve student satisfaction and emphasize the importance of pedagogical competencies in achieving positive educational outcomes (Sun et al., 2024; Tadesse et al., 2022). The study of Selvi et al. (2020) emphasizes the importance of considering various elements, such as teaching-learning processes, social interactions, and campus resources, to ensure student satisfaction. It also draws attention to the holistic nature of factors contributing to students' satisfaction. In higher education, instructor competencies are significantly related to student satisfaction. Competencies such as subject matter knowledge, presentation clarity, student interaction, and teaching creativity are positively associated with student satisfaction (Long et al., 2013; Tarigan et al., 2019). The results of related studies also support the conclusion that the perception of the instructor's instructional competence is effective in academic life satisfaction.

It is understood that the independent variables of the study have the power to affect academic life satisfaction in the form of metacognitive skill perception ( $\beta=0.343$ ), perception of instructor's instructional competence ( $\beta=0.273$ ), and student's perception of high achievement ( $\beta=0.134$ ), respectively. In conclusion, it can be pointed out that the independent variables of this study have the power to affect academic life satisfaction both separately and together significantly. However, when the power of independent variables to affect academic life satisfaction was compared, it was concluded that metacognitive skill perception had a higher predictive power of academic life satisfaction than both perceptions of instructor instructional competence and student achievement perception. In this context, it can be concluded that students with high metacognitive awareness are more successful academically, and thus, their academic life satisfaction may also be high. Wang et al. (1990) also state that metacognitive skills are among the essential factors predicting academic success.

Based on the research results, considering that metacognitive skill perception has the highest power to affect academic life satisfaction, it can be suggested that arrangements should be made to improve students' metacognitive awareness skills and include them in university undergraduate programs. In addition, it may also be recommended that the instructor's instructional competencies be improved to increase students' metacognitive awareness. The research can be expanded by including different variables that are thought to affect academic life satisfaction in the research variables. In addition, the factors affecting academic life satisfaction can be investigated comparatively with similar variables at different levels and levels of education using mixed methods. The order of entry of the independent variables of this study into the model was determined based on the literature. Research based on hierarchical regression analysis can be conducted with different variables and model suggestions.

One of the critical limitations of the study is the collection of data based on student perceptions. The lack of a data collection tool to measure the student's metacognitive skill perception or the instructor's instructional competence can be the limitation of a study. In addition, the study is limited to quantitative data. In addition, the fact that the sub-dimensions of the scales analyzed on the total scores obtained from the scales were not examined, which is another limitation of this study. The fact that only variables related to achievement perception, metacognitive awareness, and their instructor's instructional competence that affect academic life satisfaction were used and that other variables were excluded from the study is another limitation of the study. The students were asked to evaluate the instructional competencies of all instructors holistically while answering the scale items related to the instructional competencies of the instructors. However, it is important to note that this approach may have led to the unintentional oversight of individual differences among instructors. We recognize the value of each

instructor's unique style and approach, and this is an important aspect that we aim to address in future studies.

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**Ethics statement:** In this study, we declare that the rules stated in the "Higher Education Institutions Scientific Research and Publication Ethics Directive" are complied with and that we do not take any of the actions based on "Actions Against Scientific Research and Publication Ethics." At the same time, we declare that there is no conflict of interest between the authors, which all authors contribute to the study, and that all the responsibility belongs to the authors of this article in case of any ethical violations.

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