



# The Relationship Between Leisure Satisfaction and University Adjustment in University Students in the Context of Dropout Theory

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## ABSTRACT

The aim of this study is to examine the relationship between leisure satisfaction and adjustment to university life among students. The study included students studying at Akdeniz University Central Campus in Antalya. The sample group consisted of 111 male (mean age = 21.982±2.753) and 139 female (mean age = 21.640±4.462) students who participated voluntarily. The convenience sampling technique was used to reach the sample. The Leisure Satisfaction Scale, the University Adjustment Scale, and the personal information form were used to collect the data. As a result of the analysis, two significant canonical correlations were and the significant contributions of the variables to these canonical functions are at a .45 significance level. The results showed that as psychological, educational, social, physical, and aesthetic satisfaction in the leisure satisfaction dataset increased, students' institutional and personal-emotional adjustment to the university also increased. In addition, it was determined that as relaxation, aesthetic, educational, physical, and psychological satisfaction in the leisure satisfaction data set increased, students' social adjustment also increased. According to the findings of the study, it is recommended that universities should increase leisure time activities and improve physical conditions to ensure students' adaptation to the university.

## Keywords

Adjustment to University,  
Canonical correlation,  
Leisure satisfaction

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## INTRODUCTION

The concept of leisure has been an indispensable part of human life since ancient times. From the earliest ages, people have engaged in painting, music, and various sports activities during their leisure time (Ağaoğlu et al., 2005). Today, leisure is not only defined as a sense of freedom (Kuo et al., 2021) but also recognized as a critical life domain shaping the health and well-being of society (Denovan & Macaskill, 2017). Nash considers recreation to be the best way of expressing intrinsic drives (Canadian Parks/Recreation Association, 1995). Leisure satisfaction refers to the positive and pleasant feelings individuals experience as a result of engaging in leisure activities, representing a state of immediate gratification (Çakıroğlu, 1998). Positive leisure experiences are associated with well-being (Mansfield et al., 2020) and stress reduction (Chun et al., 2012). Young people learn to socialize through leisure activities by gaining meaningful and positive experiences (Granzin & Haggard, 2000). On the other hand, the literature suggests that not enjoying leisure activities can increase substance and internet use among adolescents (Wang, 2019; Weybright et al., 2015). These definitions reveal that recreation has both individual and social functions (Tekin et al., 2009). Current research highlights the significant role of leisure activities for youth in coping with stress (Park & Kim, 2018), fostering positive youth development (Bruner et al., 2017, p. 212), and supporting mental health (Hall et al., 2016). While Meyer and Brightbill describe recreation as a social force (Scholl et al., 1999), Butler emphasizes its effectiveness as a tool for avoiding harmful habits and promoting social cohesion (Shaw, 2000). Like cultural and artistic activities, leisure plays an important role in society, enhancing individuals' health and well-being (Khasnabis et al., 2010). The positive emotions derived from leisure activities point to leisure satisfaction. Ngai (2005) underscores the vital role of access to leisure in making individuals more socially harmonious.

For these reasons, university adaptation is a significant factor in students' career and social lives. Adapting to university life is considered a challenging period (İkiz & Mete-Otlu, 2015; Özkan & Yılmaz, 2010). During this difficult time, students' participation in leisure activities and sharing positive emotions influence their adaptation to university life. Sevinç and Gizir (2014) noted that adverse experiences in social relationships, utilization of sports facilities, and leisure activities negatively affect students' adaptation to university life. Participation in leisure activities at university can alleviate the stress caused by this challenging process. Universities offer various opportunities for students to engage in leisure

activities. The satisfaction students derive from these opportunities constitutes the concept of leisure satisfaction. Through the leisure opportunities they provide, universities offer students an educational environment and opportunities for socialization, relaxation, renewal, acquiring new hobbies, and learning new skills. Leisure activities are essential for students to learn university norms and develop a sense of belonging through socialization. Indeed, Zheng and Zheng (2023) note that leisure activities facilitate the adaptation process during the university transition by providing social support. Recreational activities enhance individuals' quality of life through physical, environmental, relaxation, educational, social, and psychological benefits (Bammel & Burrus-Bammel, 1996; Bright, 2000; Ho, 2008; Hung, 2012). These activities help individuals experience happiness, escape the troubles of daily life, and avoid harmful habits (Toker, 2021). Nash associates happy individuals with recreation, emphasizing that creative, exploratory, and meaningful activities occur in a satisfying life (Nash, 1960). Leisure activities positively affect individuals by ensuring mental and emotional balance (Karaküçük & Gürbüz, 2007). Ağan (2000) emphasizes the need for recreation and sports activities among university students. These features suggest that satisfaction derived from leisure activities plays a role in university adaptation.

Universities are institutions that fulfill educational functions and places where individuals develop themselves multidimensionally and lay the foundations of their professional lives. Kokotieieva et al. (2023) highlight that a student's professional development begins at university. University education is a significant tool for individuals to access various economic opportunities and enhance their cultural and social capital. A study examining the adaptation of first- and second-year students to university life found that 32.9% of students experienced adaptation problems (Değer & Çiftçi, 2020). Failure to adapt to university life, despite possessing the knowledge to enter a program, may lead individuals to drop out of education, causing psychological issues due to uncertainty about their future and posing a societal problem due to the potential loss of qualified labor. The transition to university is a phase where students adapt from familiar norms of their previous environments to new norms (Tinto, 1975). Failure to complete this transition phase often results in students leaving university. Addressing university adaptation problems is crucial for ensuring the continuity of students' educational lives, contributing to both individual and societal welfare. Leisure activities are important during this transition phase as they allow students to observe and experience the norms of university life. Therefore, examining the relationship between leisure satisfaction and university adaptation in detail is essential.

Studies in the literature have often evaluated university adaptation from the perspective of students' problems and expectations regarding university (İkiz & Mete-Otlu, 2015; Özkan & Yılmaz, 2010). However, research examining university adaptation from the perspective of leisure satisfaction appears to be scarce. In their study on students' leisure satisfaction, Sönmez and Gürbüz (2022) found a relationship between satisfaction derived from participation in leisure activities and university adaptation. This finding is important for our study. However, we believe that analyzing the multidimensional relationships between these two variable sets and evaluating them in a holistic context will add depth to the research findings. As it identifies the most significant combinations (canonical variables) for both data sets, canonical correlation analysis is more robust than other correlation analyses. Its ability to focus on the entire data structure provides more comprehensive insights, offering valuable clues for administrators and experts in determining the types of activities and events to be organized for university adaptation. Our study is expected to contribute to the literature by examining the relationship between students' leisure satisfaction and university adaptation in more depth and evaluating it within Tinto's Student Dropout Model framework.

#### *Theoretical Framework*

When the theoretical foundations of adjustment to university life are examined, it is seen that the theories of dropout model (Tinto, 1975), student attrition model (Bean, 1980) and student involvement model (Astin, 1984) stand out. Our study has been handled within the framework of the dropout model developed by Tinto. According to Tinto, universities are social systems, and the process of adaptation to a university consists of a series of stages. A student must go through separation, transition, and integration stages to adapt to the university. The separation stage, refers to the separation of the student from the family and friend environment from the order of high school life.

The transition phase is when students get used to the norms of their new environment after the familiar norms of their old environment. The integration stage is the final stage in which students feel that they belong to the university. According to Tinto (1975, 1982, 1987), students are more likely to stay and graduate if they are academically and socially integrated into the institution. Integration into the academic community means that the more connected a student feels with and supported by peers and faculty, the higher the degree of engagement in university life, both in and out of the classroom (Tinto, 2005). Tinto (2017a, 2017b) suggests that three factors determine students' adjustment to university in their first academic years.

Students' personal and psychological characteristics, academic factors (related to pedagogy and counseling), social and relational factors. Tinto emphasizes that students' interactions with peers and lecturers, especially in the first academic years, support the increase of their belonging to the university. In a study conducted by Gedik (2018), it is stated that school engagement is positively affected as the satisfaction obtained from leisure time increases. In this sense, leisure time activities are functional in establishing and reinforcing peer relationships. In conclusion, leisure time activities play a major role in improving individuals' mental and physical health, increasing social cohesion and individual happiness. University students' participation in leisure time activities has an important effect on facilitating the adaptation process to university life. Accordingly, the study has two parameters: adjustment to university life and leisure time satisfaction. In order to determine the relationship between these two parameters, the research hypothesis was determined as "H<sub>1</sub>: There is a significant relationship between the subdimensions of leisure satisfaction (psychological, educational, social, physical, relaxation, aesthetics) and the subdimensions of university adjustment (personal-emotional, social, institutional)."

## METHODS

### *Research Design*

This study was designed with a quantitative research method in the context of the functionalist paradigm, which is widely preferred in the field of sports sciences (Köse et al., 2021). The relational research model was used to determine the relationship between leisure satisfaction and university adjustment in university students. In correlational research, the relationship between two or more variables is examined, and it is aimed to understand the interaction of these variables with each other (Büyüköztürk et al., 2022). Canonical correlation analysis allows the relationship of two different quantitative variables or their effect on each other to be observed by interpreting the correlation coefficient ( $R^2$ ; Fraenkel et al., 2012). In this study, canonical correlation analysis was used for relational survey research.

Canonical correlation is used to analyze the multidimensional relationship between two sets of variables. When addressing concepts with multiple sub-dimensions, such as leisure satisfaction and university adjustment, this method examines relationships between individual variables and reveals the holistic relationship between two sets of variables. While commonly used correlation analyses in the literature typically explore relationships between individual variable pairs, canonical correlation focuses on the entire data structure, providing

more comprehensive insights. For instance, some dimensions of leisure satisfaction, such as physical satisfaction, may be more influential in personal-emotional adjustment to university than other sub-dimensions. Canonical correlation analysis offers the advantage of simultaneously examining how different sub-dimensions are interrelated, considering this multidimensional structure, which sets it apart from other methods.

### *Participants*

The study population consists of students at Akdeniz University. The sample of the study consisted of 111 (Mage = 21.982±2.753) male and 139 (Mage = 21.640±4.462) female students studying at Akdeniz University, totaling 250 (Mage = 21.792±3.796) participants. The convenience sampling technique was used in the study, one of the non-probability sampling methods. This technique is used in cases where the researcher has difficulty with random or systematic sampling (Fraenkel et al., 2012). The participating students were asked whether they attended activities organized at the university (e.g., hobby courses, artistic and sports events, social and cultural activities). Among those who participated in these activities, volunteers were included in the study. Initially, it was planned to collect the data face-to-face; however, following the earthquakes on February 6, 2023, centered in Pazarcık and Elbistan, Kahramanmaraş, which caused devastating damage in 11 provinces, universities switched to remote education. Consequently, 157 data points were collected online.

### *Data Collection Tools*

In the study, the researcher used a personal information form to obtain demographic information about age, gender, and frequency of participation in leisure time activities, and two scales were used.

### *University Adjustment Scale (UAS)*

The University Adjustment Scale was developed by Tuhanoğlu and Gizir (2020). The University Adjustment Scale consists of 45 items in total and consists of four dimensions: institutional adjustment (10 items), academic adjustment (12 items), personal/emotional adjustment (10 items), and social adjustment (13 items). The “academic adjustment” factor in the scale refers to the ability and satisfaction of students to effectively fulfill their academic obligations in the department or program they are studying. “Social adjustment”, one of the scale factors, can be defined as the ability of students to interact harmoniously with their social environment at the university and develop their relationships. Social adjustment helps

students to meet their social needs, establish friendships, and interact with individuals from different cultures. emotional “Personal-emotional adjustment” factor refers to students' emotional states (joyful, sad, anxious, happy, stressed, etc.). The “institutional fit” factor refers to student's satisfaction with the sense of belonging they feel towards the institution.

#### *Leisure Satisfaction Scale (LSS)*

The scale was developed by Beard and Ragheb (1980), and its short form was adapted to Turkish culture by Gökçe and Orhan (2011). Cronbach's  $\alpha$  for the overall total is .90, for the educational sub-dimension  $\alpha$  is .77, for the relaxation sub-dimension  $\alpha$  is .80, for the psychological sub-dimension  $\alpha$  is .77, for the social sub-dimension  $\alpha$  is .76, for the physiological sub-dimension  $\alpha$  is .79 and for the aesthetic sub-dimension  $\alpha$  is .79. In order to test the test-retest reliability of the scale, an intraclass correlation test was conducted. The test result was found to vary between .59 and .75. No significant difference was found in the difference analysis between the two applications ( $p > .05$ ). Köse et al. (2024), the validity evidence for the leisure time satisfaction scale is as follows:  $\chi^2/df=14.42$ ; CFI = .97; NFI = .97; NNFI = .98; RMSEA (90 % CI) = .076 (.073-.078); SRMR = .053. In addition, in the study conducted by Köse et al. (2024) for construct validity, the measurement invariance of the leisure time satisfaction scale according to gender, age or marital status was tested and it was determined that the measurement tool provided at least the metric invariance criterion for all three variables.

#### *Data Collection Procedure*

The data collection process was initiated after the approval of Akdeniz University Ethics Committee. The data collection phase was carried out voluntarily. Permission was obtained from the participants, and they were informed about the purpose of the study. Before data collection, participants were informed that the anonymity and confidentiality of their answers would always be protected.

#### *Statistical Analyses*

Before starting the canonical correlation study, the basic assumptions regarding the analysis were tested to minimize the problems that may occur during the analysis phase. These assumptions are the detection of missing and extreme values, univariate and multivariate normality and linearity, sample size, multicollinearity, and homogeneity. In this context, extreme and missing values data are organized, and assumptions of multivariate normality

and linearity, defined as essentially elliptical, were accepted. According to Rosenthal and Rosnow (2008), Skewness and kurtosis values vary between -1 and +1. These values were checked to test univariate normality and found to be eligible. The Kolmogorov-Smirnov test results showed significant significance in all sub-dimensions of the leisure time satisfaction and university adjustment scale ( $p = .000$ ).

Finally, the problem of multicollinearity among the data was tested. When the analysis results were analyzed, it was found that VIF values were  $<1$ , CI values were  $<13$ , and Tolerance value was high (it is close to 1). Belsley (1991) states there is no multicollinearity problem when the VIF value is below 10 and the CI value is under 30. The tolerance value is calculated as  $1 - R^2$ , and a larger tolerance value means a smaller VIF value (Mertler & Vannatta, 2005). The obtained results show that there is no multicollinearity problem among the variables. Then, the homogeneity of variances was tested with the Box M test, and it was found that variance and covariance matrices were homogeneous. IBM SPSS 23 program was used in the process of conducting these analyses.

## RESULTS

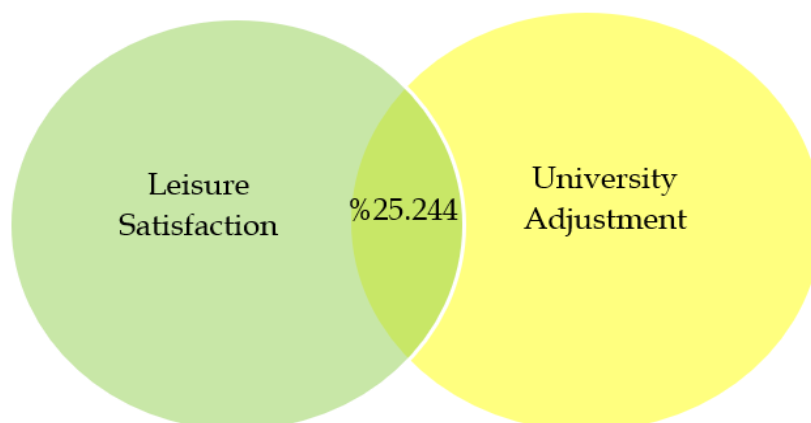
The results of the Wilks, Hotellings, Roys and Pillais tests, which show the statistical significance of the canonical model obtained according to the findings obtained as a result of the canonical correlation analysis, were analyzed. Wilks  $\lambda$  test is based on these significance tests in canonical correlation analysis (Sherry & Henson, 2005). Therefore, the F value obtained from Wilks  $\lambda$  test is taken as basis in this study. The significance tests in Table 1 show that the canonical model is significant (Wilks  $\lambda = .74756$ ,  $F(18, 682.14) = 4.10576$ ,  $P = .000$ ). In line with the obtained results, it was determined that there is a significant relationship between leisure satisfaction and university adjustment. In canonical correlation analysis studies, it is also recommended to consider the effect size " $1 - \lambda$ ". This value is considered to consider the possibility of the number " $n$ " affecting the significance of the model. This study used the " $1 - \lambda$ " value to calculate the inverse effect size ( $1 - .74756 = 0.25244$ ). As a result, the shared variance between leisure satisfaction and university adjustment was 25.244%.

In order to determine the significance of canonical functions, the eigenvalues of canonical functions should be examined (Sherry & Henson, 2005). The canonical functions and their eigenvalues are presented in Table 13. While the correlation value for the first canonical correlation is .17307, the correlation value for the second canonical function is .07134, and the correlation value for the third canonical function is .02655.



**Figure 1**

Common Variance Between Leisure Satisfaction and University Adjustment

**Table 1**

Multivaried Significance Tests

Test	Value	Approximate F.	Hypothesis sd.	Error sd	Significance of F.
Pillais	.27095	4.02098	18.00	729.00	.000
Hotellings	.31337	4.17252	18.00	719.00	.000
Wilks	.74756	4.10576	18.00	682.14	.000
Roys	.17307				

As seen in Table 2, the highest correlation between canonical variables belongs to the first canonical function. When the first function is excluded from the analysis, the significance of the canonical correlation and the common variance shared by the remaining canonical functions are determined. With dimension reduction analysis, the line columns of the table are examined for each canonical function, and it is seen that the canonical correlation coefficient decreases when it reaches the bottom line of the table, and usually, the relationship between the canonical variables in this last canonical function is not significant (Sherry & Henson, 2005). When we examined the variables of leisure satisfaction and university adjustment, it was determined that the first two canonical functions were significant in the relationship between the data sets. In line with the results obtained, it was determined that there is a significant relationship between leisure satisfaction and university adjustment.

**Table 2**  
Eigen Values and Canonical Correlation

Root No.	Eigen Value	Percentage(%)	Cumulative Percentage(%)	Cannonical Coralelation	Squared Cannonical Coralelation
1	.20929	66.78486	66.78486	.41601	.17307
2	.07682	24.51262	91.29747	.26709	.07134
3	.02727	8.70253	100.00000	.16293	.02655

In Table 3, the canonical model consisting of the cumulative values of the three canonical functions is significant (Wilks's  $\lambda = .74756$ ,  $F(18, 682.14) = 4.10576$ ,  $p = .000$ ). Considering the cumulative value of the first and third canonical function, the shared variance of leisure satisfaction and university adjustment was found to be 25.244% [ $1-\lambda = .74756$ ]. The second canonical function (2 to 2), which remained after the first canonical function was removed, showed that the relationship between leisure satisfaction and university adjustment data sets was also significant (Wilks's  $\lambda = .90401$ ,  $F(10, 484) = 2.50480$ ,  $p = .006$ ). The shared common variance was 9.599% [ $1-\lambda = .90401$ ]. In other words, it is the 1<sup>st</sup> and 2<sup>nd</sup> canonical functions that contribute the most to the relationship between leisure satisfaction and motivation. The 3<sup>rd</sup> canonical function is not reported because it is not significant.

**Table 3**  
Dimension Reduction Analysis

Root	Wilks $\lambda$	F	Hypothesis sd	Error sd	Significance Level of F
1 to 3	.74756	4.10576	18.00	682.14	.000
2 to 2	.90401	2.50480	10.00	484.00	.006
3 to 3	.97345	1.65674	4.00	243.00	.161

Another important issue to be addressed in canonical correlation analysis is the extent to which the variables in the data sets contribute to the relationship between canonical variables. The standardized coefficients and structural coefficients of canonical functions guide finding the answer to this question. A comprehensive analysis of the relationship between two variables is made using these coefficients. In this study, the extent to which the psychological, educational, social, physical, relaxation, and aesthetic dimensions in the leisure satisfaction data set and the personal-emotional, social, and institutional adjustment variables

in the university adjustment data set contribute to the relationship between canonical variables was determined. For this purpose, the standardized coefficients and structural coefficients of the first and second canonical functions between canonical variables were examined. The findings are presented in Table 4. In the presentation of the findings, the standardized coefficient values and structural coefficient values of the canonical functions are included in addition to the common variance value shared by the variables in the leisure satisfaction and university adjustment data sets. The “H<sup>2</sup>” value in the table is obtained by summing the shared variance values of the variables in the first and second canonical functions of the variables in the leisure satisfaction and university adjustment data sets and gives the amount of the common variance that these variables share with the data set in the canonical model. A value of .45 is taken as a reference to evaluate the importance of the variance the variables share with the data set they are in. This criterion is used to determine whether the contribution of the variables to this data set is significant. If a variable's Rc and H<sup>2</sup> values are above .45, it can be said that this variable makes a significant contribution to the data set. The acceptance of the criterion above .45 comes from factor analysis. In factor analysis, items with factor loadings higher than .45 are considered very good items (Sherry & Henson, 2005). The canonical functions obtained from canonical correlation analysis, the signs (+, -) of the variables that contribute (significantly contribute) to the data set above .45 give information about the direction of the relationship between these variables. Variables with the same signs have a similar relationship.

According to the findings in Table 4, in the first canonical function, it was determined that the contributions of psychological, educational, social, physical, aesthetic, and physical variables to the leisure satisfaction data set were above .45. These variables were found to contribute more to the leisure satisfaction dataset than the relaxation variable. In addition, the first canonical function determined that personal-emotional harmony and institutional harmony variables contributed more than the social harmony variable in the university adjustment data set. When the Rc<sup>2</sup> value is evaluated, it is seen that the value calculated for the first canonical function is .17307. This value reveals that the common variance shared between the two data sets is 17.307%.

**Table 4**  
Canonical Analysis of Canonical Functions 1 and 2 for the Relationship Between LSS and UAS Data Sets

Variables	1 <sup>st</sup> Canonical Function			2 <sup>nd</sup> Canonical Function			Communality Coefficient (H <sup>2</sup> )
	Standardized Coefficients	Structural Coefficients (Rc)	Square of Structural Coefficients (Rc <sup>2</sup> )	Standardized Coefficients	Structural Coefficients (Rc)	Square of Structural Coefficients (Rc <sup>2</sup> )	
Psychological	0.02684	<u>0.74849</u>	.56023	.20404	<u>-0.48876</u>	.23888	<u>0.79911</u>
Educational	-0.3365	<u>0.71558</u>	.51205	-0.96212	<u>-0.56886</u>	.32360	<u>0.83565</u>
Social	0.8082	<u>0.80187</u>	.64299	1.44293	-0.42496	.18059	<u>0.82358</u>
Physical	1.24084	<u>0.86328</u>	.74525	0.23328	<u>-0.49997</u>	.24997	<u>0.99522</u>
Relaxation	-0.5405	0.42943	.18441	-0.81468	<u>-0.77344</u>	.59820	<u>0.78261</u>
Aesthetics	-0.5055	<u>0.52711</u>	.27784	-0.89699	<u>-0.72701</u>	.52854	<u>0.80638</u>
R <sub>c</sub> <sup>2</sup>			<b>.17307</b>			<b>.07134</b>	
Personal-Emotional	0.70284	<u>.91322</u>	.83397	-0.46478	-0.2135	.04558	<u>0.87955</u>
Social	-0.0436	0.06921	.00479	-0.91429	<u>-0.81617</u>	.66613	<u>0.67092</u>
Institutional	0.46462	<u>0.77734</u>	.60425	0.62742	0.24633	.06082	<u>0.66507</u>

Note. Variables that contribute most to canonical functions

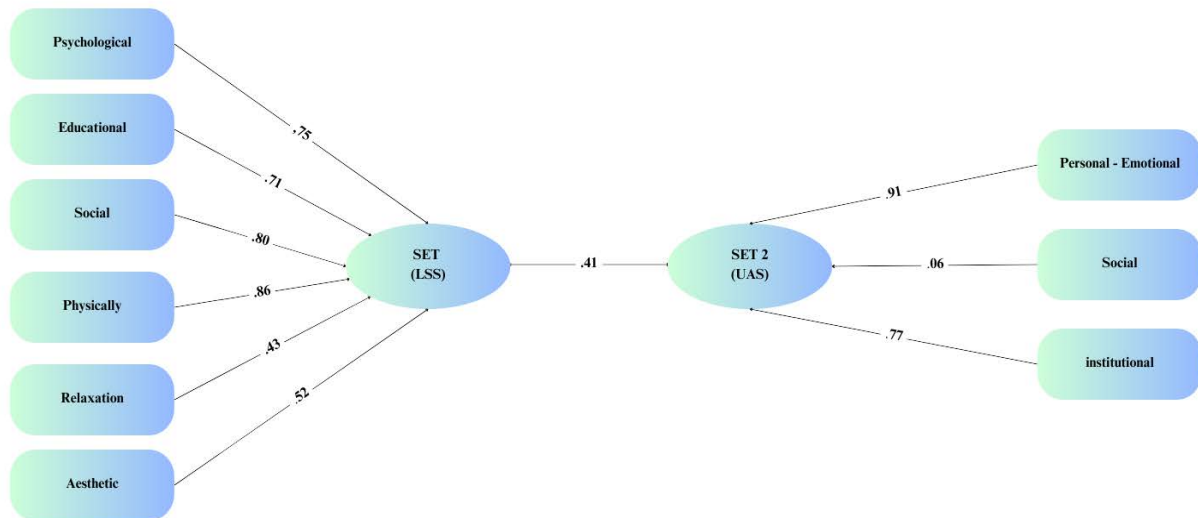
The variables belonging to both data sets in the first canonical function are positive. Based on this information, for the first canonical function in Table 4, it can be stated that as the psychological, educational, social, physical, and aesthetic satisfaction scores in the satisfaction data set increase, the personal-emotional fit and institutional fit in the university fit data set increase.

When the second function was analyzed, it was determined that the variables that contributed the most to the leisure time satisfaction data set were relaxation, aesthetic, educational, physical, and psychological satisfaction, respectively. Social cohesion contributes the most to the university fit data set. The standard variance value shared between both data sets for the second canonical function was found to be 7.134%. The variables in both data sets are similar for the second canonical function. This indicates that as relaxation, aesthetic, educational, physical and psychological satisfaction in the leisure satisfaction dataset increases, social adjustment in the university adjustment dataset also increases.

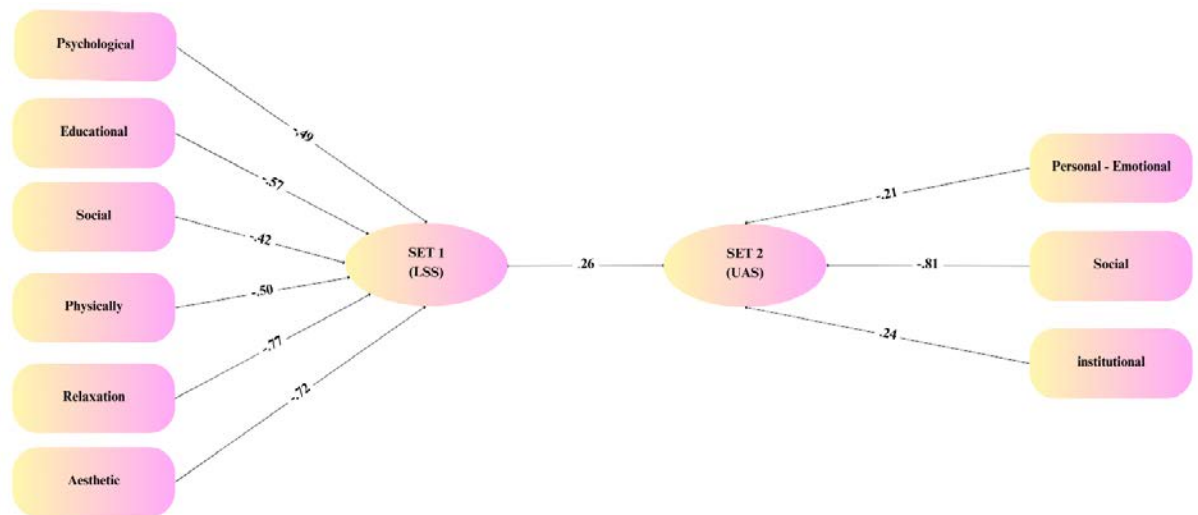
Figure 2 presents the structural coefficients of the first canonical function, and Figure 3 presents the structural coefficients of the second canonical function and the canonical

correlation coefficients between the leisure satisfaction (LSS) and university adjustment (UAS) datasets.

**Figure 2**  
Structural and Canonical Correlation Value of the 1<sup>st</sup> Canonical Function between Leisure Satisfaction and University Adjustment



**Figure 3**  
Structural and Canonical Correlation Value of the 2<sup>nd</sup> Canonical Function between Leisure Satisfaction and University Adjustment



## DISCUSSION

The fact that there is no comprehensive research in the literature on which sub-dimension of leisure satisfaction is a determinant in university students' adaptation to university makes it difficult to discuss the findings of this study. The primary purpose of our study is to understand in an exploratory context which sub-dimensions of leisure satisfaction

are more determinative in personal-emotional, social, and institutional adjustment to university life. The relationships between the sub-dimensions of these two variables and the possible reasons for these relationships will be discussed in detail. The discussion will also be placed in the context of Tinto's dropout theory.

The research findings revealed that the sub-factors that contributed the strongest to the leisure satisfaction dataset were physical, social, and psychological satisfaction. It is quite understandable that university students who participate in hobby classes, in particular, achieve the most physical satisfaction through classes involving physical activity. The fact that hobby classes were conducted with students from different faculties may have increased their social interactions with others and hence their social satisfaction. It is understandable that this process also affects psychological satisfaction, and that psychological satisfaction is one of the highest satisfactions experienced through these activities. In a study conducted by Köse (2021), the benefits of structured activities for prisoners were discussed. The research findings reveal that individuals engaged in social interaction feel better psychologically. Leisure activities are one of the most powerful socialization tools closely related to psychological well-being. At the same time, among the findings, people who physically benefit from leisure time activities feel better psychologically. Therefore, considering that university students obtained physical, psychological, and social satisfaction from the activities they participated in and the interrelationships of each satisfaction, it is possible that the psychological and social satisfaction of those who achieved physical satisfaction indirectly increased. Considering this interrelated relationship of the sub-dimensions, it is understandable that relaxation contributes more to the first canonical function than aesthetic and educational satisfaction. It was determined that the sub-dimensions that contributed the most to the 1<sup>st</sup> canonical function in the adaptation of university students participating in leisure activities to the university were Personal-Emotional and Institutional adjustment. Considering that individuals who participate in leisure time activities increase their personal-emotional adjustment by achieving success in regulating their emotions and the relationship between the satisfaction obtained from participation in leisure time activities and the frequency of participation, it is understandable that the student comes to the institution more often and increases institutional adjustment.

Considering the canonical relationships, it was determined that psychological satisfaction in the leisure satisfaction data set was positively related to personal-emotional adjustment and institutional adjustment in the university adjustment data set. Psychological

satisfaction emerges as a result of the fact that leisure activities are engaging to the individual and give a sense of confidence and success. Personal-emotional adjustment is related to students' control of their negative emotions. The psychological satisfaction obtained from leisure time activities will likely help students to achieve personal-emotional adjustment to the university by helping the emotional regulations experienced by students during the university adjustment process. Siyahtaş and Donuk (2021) reported that university students' feelings of loneliness decreased with increased leisure time satisfaction. In a study conducted in 2023, students stated that they had adjustment problems but overcame them thanks to social support, positive perspective and social activities (Eryılmaz et al., 2023). In a study conducted by Öztürk (2020) with new university students, it was found that the stress perceived by students when they started university was high, negatively affecting university adaptation. From this point of view, it is thought that the relaxation and social adaptation of new students can be increased by account considering the suggestions to increase the satisfaction of new students in their leisure time. Psychological satisfaction is thought to be positively related to personal-emotional satisfaction because it can reduce the perceived stress level. Research findings show that as psychological satisfaction increases, institutional adaptation also increases. Institutional adaptation means that the student feels a sense of belonging to the university. Since students who participate in leisure activities at the university meet other students, expand their social networks, adapt to new norms, and receive acceptance and attention from other students, it is understandable that students who achieve psychological satisfaction increase their institutional cohesion. In the literature, there are studies emphasizing that leisure time activities increase the frequency of students coming to school (Eccles et al., 2003) and reduce drop-outs (Mahoney, 2000). A similar study by Karahan et al. (2005) supports our findings by revealing that students who actively participate in socio-cultural activities have fewer adjustment problems than students who do not. Sönmez and Gürbüz (2022) evaluated the satisfaction obtained from leisure time as a factor that supports students' adaptation to a new socio-cultural environment and self-improvement during the university process.

Educational satisfaction and personal-emotional adjustment are other canonical relationships. Research findings reveal that as the educational satisfaction obtained from leisure time activities has increased, students' personal-emotional adjustment has increased. Educational satisfaction refers to the satisfaction obtained from trying new things, getting to know oneself, and learning new things about other people. Participating in an activity of

interest as a leisure time activity can provide a break from the monotony of daily life. In addition, the self-confidence of the student who increases their intellectual equipment by acquiring new knowledge through leisure time activities will also improve. It is thought that the increase in knowledge can be decisive in coping with problems and providing students with another perspective to manage their personal-emotional situations better. Köse (2021) reveals that inmates who acquire new knowledge and experience through leisure time activities feel better psychologically, their self-confidence and self-esteem increase, and they are better able to cope with the problems they experience. This finding provides important support that students who experience educational satisfaction can learn to look at life from a different perspective and support them in regulating their personal-emotional state during their university adaptation process. Students whose perspectives change are likely to change their emotional states towards the difficulties in life, which is positively related to their adjustment to university. Another variable associated with educational satisfaction is institutional adjustment. Research findings show that as educational satisfaction increases, institutional adjustment increases. Universities are educational institutions that offer environments where students can learn new things during their free time at university. In this case, it is understandable that educational satisfaction contributes positively to students thinking that they have found what they hoped for at the university, are satisfied with their choice of university, and thus feel a sense of belonging.

Another important finding of our study is the relationship between social satisfaction, institutional adjustment and personal-emotional adjustment. According to the study's findings, it is shown that students' personal-emotional adjustment increases with their satisfaction with social satisfaction. Social satisfaction refers to individuals' friendships, communication, and interactions with other individuals. Therefore, it is understandable that a person whose social satisfaction increases is satisfied with the institution adapts to the institution, and increases personal-emotional adjustment. Increased social satisfaction is also positively related to increased personal-emotional adjustment. The findings show that people with increased social satisfaction have increased personal-emotional adjustment. It is also understandable that individuals who make new friends, interact with their social environment and have social network support decrease their feelings of loneliness etc. during the adaptation process to university and are more successful in personal-emotional adjustment. In a study conducted by Hadi et al. (2021), it was found that high leisure time satisfaction of individuals supports them to maintain their positive mood. Akhan and Demir



(2020), in their experimental study, emphasize that university adaptation programs prepared with creative drama activities will facilitate students' adaptation to university. In the study, one group received orientation training with creative drama activities, while the other group received an orientation program without drama activities. According to the data, it was found that students who participated in the adaptation program accompanied by drama had a higher level of adaptation to university (Akhan & Demir, 2020).

Physical satisfaction refers to the satisfaction received as a result of thinking that leisure time activity improves physical fitness, helps to stay healthy, and makes one feel refreshed. In our study, it is found that physical satisfaction obtained from leisure time increases organizational adaptation. In parallel with this finding of our study, Kim and Song (2021) found a statistical relationship between physical activity level and adjustment to university life and that physical activity may positively affect adjustment to university life. In this respect, it is thought that students feeling physically healthy and energetic within the opportunities provided by the university may facilitate their adaptation to the institution.

Aesthetic satisfaction describes the satisfaction obtained from the cleanliness and well-groomedness of the place where the individual performs leisure activities. In our study, it was found that as aesthetic satisfaction increases, personal-emotional adjustment increases. Participating in leisure time activities in an aesthetically attractive, well-maintained, and clean environment can increase individuals' motivation to participate, reduce their anxiety, and help them feel satisfied with themselves. In addition, a beautiful environment can provide an unforgettable experience and make activities more meaningful. Individuals who find their lives more meaningful will likely be more emotionally positive and more satisfied with life. Therefore, this relationship between aesthetic satisfaction and personal-emotional adjustment seems understandable. Among our findings, as aesthetic satisfaction increases, organizational adjustment also increases. Participating in leisure activities in a beautiful, well-maintained, and clean environment strengthens individuals' connection with their environment and sense of belonging. Therefore, it is expected that the relationship between aesthetic satisfaction and institutional adjustment is positive. In order to have aesthetic satisfaction, the university should have physical facilities.

In the 2<sup>nd</sup> canonical function, we can explain the relationship between aesthetic satisfaction and social cohesion as follows: 1-Fresh, clean, interesting, and beautiful environments where leisure activities occur can increase individuals' willingness to interact socially. People prefer to be in an aesthetically pleasing environment and such environments

can provide a platform for individuals to socialize and create a common interest among individuals. For example, an art gallery, park, or sports center can enable individuals to communicate with each other and develop a sense of community (Pretty et al., 2005). Al-Qaisy (2010) argues in his study that the university physical facilities (such as cleanliness, number of facilities, and quality of facilities) increase students' adjustment to the university.

Another finding not explained in the first function but included in the second canonical function is that social adjustment increases as relaxation satisfaction increases. Individuals do not feel like strangers in an environment where they feel comfortable and relaxed and can easily make friends. Therefore, it is understandable that social adjustment increases as the relaxation satisfaction obtained from leisure increases. It has been determined that students who have positive attitudes towards leisure time activities obtain satisfaction from leisure time activities, which contributes to their social well-being (Kim et al., 2015). In addition, the second function found that as the psychological, educational, aesthetic, physical, and relaxation satisfaction obtained from leisure activities increased, social adjustment to the university increased. Considering that these types of satisfaction are the dimensions of leisure satisfaction that support each other, the positive relationship with individuals' social adjustment seems understandable.

Considering all our findings, it is possible to state that leisure time satisfaction is generally effective in adjusting to university. For example, a study conducted by Gedik (2018), it was a study conducted by Gedik (2018) found that students who achieved physical and psychological satisfaction in their free time increased their commitment to the school. Astin (1984) argues that students' success in their courses positively affects their participation (adjustment) to university. In this context, Sarı and Kaya (2016) state a positive relationship between educational, social, physiological, psychological, and aesthetic satisfaction, which are the sub-dimensions of leisure satisfaction and academic achievement. From this point of view, it can be said that one of the practical factors in students' adjustment to university is leisure time satisfaction, and the grade point average of students who are satisfied in their leisure time may increase. In the literature, studies are emphasizing that academic achievement and social support are related to adjustment to university life (Perera & DiGiacomo, 2015; Yalım, 2007). As it is seen, it is stated that the academic achievement and social support of students who participate in leisure time activities and provide satisfaction are improved, and therefore their commitment to school increases. It is possible that the satisfaction obtained from the activities at the university may be related to the institutional belonging to the university. Many studies

have shown that there is a relationship between leisure time satisfaction and frequency of participation (Choi & Yoo, 2017), and it can be said that increasing the frequency of participation in leisure time activities will positively affect belonging to the context, social environment, and institution.

In Tinto's three-phase model, the beginning of the adjustment process to university, in which students leave the care of their families and gain autonomy, refers to the separation phase. This phase may cause students to experience personal-emotional problems. For students who experience emotional problems during the separation phase, the adjustment process, which Tinto refers to as the transition process, becomes difficult, and this may even lead to a decrease in academic achievement and radical decisions such as leaving the university. The transition phase, which is the second stage in Tinto's model, is defined as a necessary process for a healthy adjustment to university. When the research findings are considered in the context of Tinto's theory, leisure time activities play a key role in students' adjustment to university at this stage. The transition phase of students who are satisfied with leisure time activities at university is completed healthily and the emotional problems experienced by students in the first phase gradually decrease. Thus, students can quickly adapt to university life. Considering the individual and social benefits, leisure time activities are thought to contribute positively to the transition phase and facilitate the integration phase. Considering the positive relationship between satisfaction from leisure time activities and adjustment to university life, the study's findings are consistent with Tinto's theoretical structure.

#### *Limitations*

This study is limited to students studying at Akdeniz University Central Campus. The methodological limitation of the research is that it consists of data collection tools, and the data is collected by "sampling methods with known probability". Another limitation of the study can be expressed as follows. All the scales used in the study are self-report scales. This may cause participants to give socially desirable responses rather than honest feedback about themselves. This may negatively affect the validity of the scales used in the study (Van de Mortel, 2008). Also, the Kahramanmaraş-based earthquake that occurred during the data collection process and the transition of universities to distance education may have caused bias in the results by affecting students' participation and answering behaviors.

## CONCLUSION

Leisure satisfaction refers to a positive and pleasant feeling obtained from a leisure activity. This study aims to reveal the importance of satisfaction obtained from leisure time activities in adjustment to university life, which has institutional, personal-emotional, and social dimensions. When the results were analyzed, it was determined that the sub-dimensions that contributed the most to the first canonical function were psychological, educational, social, physical, and aesthetic satisfaction, respectively. These results reveal that university students derive the most psychological, educational, and social satisfaction from their leisure activities. The sub-dimensions that contribute the most to the university adjustment data set are personal-emotional adjustment and institutional adjustment. This result shows that university students who participate in leisure activities experience the most personal-emotional adjustment and theoretical adjustment. In addition, there are strong relationships between psychological, educational, social, physical, and aesthetic satisfaction obtained from leisure time and personal-emotional adjustment and theoretical adjustment. These findings suggest that university students' satisfaction with leisure activities is critical in understanding their adjustment to university. In particular, the fact that psychological, educational, and social satisfaction is strongly related to personal-emotional and institutional adjustment suggests that leisure effectively increases students' overall life balance and sense of belonging beyond individual well-being and academic achievement. These results emphasize that planning and promoting leisure time activities at universities can critically contribute to students' adjustment processes.

## PRACTICAL IMPLICATIONS

We can express the theoretical implications of our study as follows: Studies on the motivational dimensions of participation in leisure activities will allow us to understand better students' leisure satisfaction and how this satisfaction affects their adjustment processes. In particular, the types of activities students derive satisfaction from and the motivations behind these activities can be investigated. Therefore, through qualitative interviews, a study can be planned on which activities students are more satisfied with and why they choose them. In addition, the study's data were obtained from only one campus, so the effects of leisure satisfaction on college adjustment in different cultural and demographic groups should be addressed in future studies. The results of such a study may reveal possible differences

between students' leisure satisfaction and adjustment processes in different socio-cultural contexts.

The practical implications of our research results can be expressed as follows: The study's findings reveal that students' leisure time estimates increase their university adjustment. Therefore, universities can organize programs encouraging social activities and provide physical facilities, sports facilities, event spaces, and social centers to increase student participation. Such practices will support both the personal-emotional and social adjustment of students. In addition, adjustment programs that include leisure time activities can be prepared to support the adaptation process of new students. Universities can offer counseling services to increase students' satisfaction with leisure activities. Finally, it is seen that aesthetic adaptation is effective in university adjustment. In this context, universities should emphasize aesthetically enhancing physical spaces and providing students with relaxing and aesthetically satisfying environments. In addition, new activities and programs can be developed in line with the demands and needs of students.

#### **Authors' Contribution**

The first author contributed to writing–original draft, data curation resources and the second author contributed validation, review & editing. Both authors contributed to formal analysis and methodology.

#### **Declaration of Conflict Interest**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

#### **Ethics Statement**

Permissions were obtained from the Akdeniz University Ethics Committee (E-55578142-050.01.04-564427, Date: 25/01/2023) for the conduct of the study, the participants were given detailed information about the purpose of the study and how it would be conducted, it was stated that the study would be conducted on the basis of confidentiality and that they could withdraw from the study at any time.

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