# The relationship between problematic internet use of adolescents and their level of satisfaction with family life

*Ergenlerde problemli internet kullanımı ve aile yaşam doyumu düzeyleri arasındaki ilişki*

Ayşe Nur Kalkan, Esin Cerit

**Abstract**

**Purpose:** This study aimed to determine the relationship between the level of problematic internet use of adolescents and their level of satisfaction with family life.

**Material and method:** This cross-sectional descriptive study included 508 volunteer students who were attending high schools in Yozgat city centre in the 2021-2022 academic year. The research data were collected between 27.12.2021-22.04.2022, using a Personal Information Form, the Problematic Internet Use Scale, and the Family Life Satisfaction Scale. Questionnaires created through Google Forms were sent to students' smartphones. In the data analysis, the t-test, One-Way Analysis of Variance (ANOVA), correlation analysis and linear regression analysis were used.

**Results:** The results of the analysis revealed a significant negative relationship between the problematic internet use of adolescents and their level of satisfaction with family life (r:-0.262, $p<0.001$). An increase in family life satisfaction was determined to reduce the level of problematic internet use ($\beta_1$:-0.209, $p<0.001$). Family income and academic achievement were found to be predictors of problematic internet use ($p<0.05$).

**Conclusion:** From the results of the study, it was concluded that problematic internet use behavior increased in adolescents with low family life satisfaction. In this context, it is recommended to conduct preventive, protective, and educational studies that emphasize the importance of the family in the development of adolescents as healthy internet users, and to include the use of different methods in the follow-up studies, including other possible predictors.

**Key words:** Problematic behavior, internet use, family, life, satisfaction.

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**Öz**

**Amaç:** Bu araştırmada ergenlerin problemli internet kullanım düzeyleri ile aile yaşam doyumu düzeyleri arasındaki ilişkinin belirlenmesi amaçlanmıştır.

**Gereç ve yöntem:** Araştırma, 2021-2022 Eğitim-Öğretim yılında Yozgat il merkezinde bulunan liselerde öğrenim gören öğrencilerden gönüllü olan 508 öğrencinin katıldığı kesitsel desende tanımlayıcı bir araştırmadır. Araştırma verileri, 27.12.2021-22.04.2022 tarihleri arasında toplanmıştır. Veriler, Kişisel Bilgi Formu, Problemli İnternet Kullanımı Ölçeği, Aile Yaşam Doyumu Ölçeği aracılığıyla toplanmıştır. Veriler, öğrencilerin akıllı telefonlarına gönderilen Google Form anketleri aracılığıyla elde edilmiştir. Verilerin analizinde t testi, Tek Yönlü Varyans Analizi (ANOVA), korelasyon analizi ve lineer regresyon analizi tekniğinden yararlanılmıştır.

**Bulgular:** Yapılan analiz sonucunda ergenlerin problemli internet kullanımı ile aile yaşam doyumu düzeyleri arasında negatif yönde anlamlı bir ilişki olduğu (r:-0,262, $p<0,001$) ve aile yaşam doyumunun artmasının problemli internet kullanım düzeyini azalttığı saptanmıştır ($\beta_1$:-0,209, $p<0,001$). Ayrıca aile geliri ve okul başarısı düzeylerinin problemli internet kullanımının birer yordayıcısı olduğu saptanmıştır ($p<0,05$).

**Sonuç:** Çalışmanın sonucunda aile yaşam doyumu düşük olan bireylerde problemli internet kullanımı davranışının arttığı sonucuna ulaşılmıştır. Bu kapsamda, ergenlerin sağlıklı kullanıcılar olarak gelişmelerinde ailenin öneminin vurgulandığı önleyici, koruyucu ve eğitici çalışmaların yapılması ve takip edecek çalışmalarda, başka olası yordayıcıları da içerecek şekilde ve farklı yöntemlerin kullanımına yer verilmesi önerilmektedir.

**Anahtar kelimeler:** Problemli davranış, internet kullanımı, aile, yaşam, doyum.

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## Introduction

The internet is one of the most important and effective tools that science has added to the modern world. Although the increasingly frequent use of the internet can have positive results, it has also raised issues of addiction/ problematic use [1]. Researchers have used different terms such as internet addiction [1], internet addiction disorder [2], pathological internet use [3] and problematic internet use [4, 5] to define the negative effects of the internet, and the concept of problematic internet use has recently become more important. Problematic internet use, refers to a situation where the duration of internet use is more than usual, customary, or planned [5]. This may lead to a decrease in the sleep quality of the individual, a decrease in productivity in daily life, and a decrease in the time spent in a social environment such as with family and friends [6]. Adolescents are prone to problematic internet use behavior due to the characteristics of their developmental period [7]. Previous studies have revealed that adolescents particularly prefer being online on the Internet to many other life events in which they have previously participated and that have facilitated their socialization [8-10].

The fact that there are various disagreements about the diagnostic criteria of problematic internet use explains the scarcity of comprehensive epidemiological studies on this topic. The results of several large-scale studies on this subject have indicated that the rates of problematic internet use among European adolescents range from 7% to 18.5% [11, 12] while these rates are between 18% and 26.5% in Asian adolescents [13, 14]. The results of studies conducted in Türkiye [16, 17] have revealed that this rate varies between 16% and 21%. Furthermore, according to the results of the "Research on the Children's Use of Information Technologies" conducted in Türkiye in 2021, the rate of the children aged between 6-15 years using the Internet was 50.8% in 2013, and this rate increased to 82.7% in 2021. When the rate of using the Internet is examined on the basis of gender, it was determined that the rate for boys using the Internet was 53.7% in 2013, which increased to 83.9% in 2021, and for girls, the rate was 47.8% in 2013, which then increased to 81.5% in 2021 [17]. Therefore, it would not be wrong to assume that use of the internet, the

main purpose of which is to provide faster, safe and cheaper access to information, is moving away from this purpose particularly with regard to young people and uncontrolled use causes addiction.

The rapid spread of problematic internet use and the fact that it causes serious negativities in the lives of adolescents [18, 19] have maintained interest on the subject and led academicians to analyze various variables that may be relevant to the subject. One of these variables is the level of family life satisfaction. Family life satisfaction includes the perception of certain characteristics of family members and family life together with thoughts about the interaction of family members with each other. Each family member may experience different levels of family life satisfaction. Therefore, this concept should be considered an individual characteristic rather than a broader concept representing the family [20]. Family life satisfaction, which is an important sub-component of life satisfaction, is related to one's mental health. In this study it was aimed to raise awareness of the potential risks of problematic internet use and family relationships together with the measures to be taken in this regard. This study can be considered of value as to the best of our knowledge there is no previous study in which the level of family life satisfaction and problematic internet use of adolescents have been discussed together, and it is therefore thought that the results of the study will be of guidance for future studies.

The aim of this study was to evaluate the relationship between levels of problematic internet use and family life satisfaction of high school students in a city in Türkiye.

## Materials and methods

**Type of research:** The research was conducted in a cross-sectional descriptive design.

**Participants:** The study population comprised volunteer students attending high schools in Yozgat city centre in the 2021-2022 academic year. The sample consisted of students from a regular high school, a science high school, a vocational and technical high school, and an Anatolian Imam Hatip (religious) high school. The convenience sampling method as one of the non-probability sampling methods was used in the study. Data collection forms were sent to 1733 students, 508 of whom consented

to participate in the study (29.31%). The power of the sample was evaluated using G *Power 3.1 statistical software at the end of the post hoc analysis performed on the results of the study. Considering the results derived in the correlation analysis (r:0.262) between the mean scores of the Problematic Internet Use Scale-Adolescent and The Family Life Satisfaction Scale, the power of the study with an effect size determined as 0.50 was calculated as 100%.

*Inclusion Criteria:*

-Being able to read and write in Turkish

- Owning a smart phone and using the internet

**Data collection:** The research data were collected between 27.12.2021-22.04.2022, using a Demographic Questionnaire, the Problematic Internet Use Scale-Adolescent (PIUS-A) and the Family Life Satisfaction Scale (FLSS). Questionnaires prepared using Google Forms were delivered to students' smartphones. The "Informed Consent" form was sent to the participants before the study was conducted, then those who agreed to participate in the research completed and submitted the other data collection forms.

**Demographic questionnaire**: This 13-item questionnaire was developed by the researchers based on previous literature [1-7, 21-23] to determine the demographic characteristics of the participants, including school year, gender, age, number of siblings, perceived family income, perceived parental attitudes, parents' educational background, parents' working status, parental living together and perceived academic achievement.

**Problematic Internet Use Scale-Adolescent (PIUS-A):** The validity and reliability of the PIUS-A for a sample of high school students were confirmed by Ceyhan and Ceyhan [7]. The scale consists of 27 items in 3 sub-dimensions of "negative consequences of using the internet", "social benefits/social comfort" and "overuse". The scale addresses 9th- 12th grade students. Each item is scored using a 5-point Likert scale, with items 7 and 10 reverse coded. The points of the items provide a total score in the range of 27 and 135 points, with higher scores indicating a higher level of problematic internet use.

This therefore, indicates that adolescents are more likely to exhibit problematic internet use behavior and that they may show a tendency towards internet addiction. The Cronbach-alpha internal consistency coefficient of the original scale was found to be 0.93 [7]. In this study, the Cronbach-alpha internal consistency coefficient was 0.93.

**Family Life Satisfaction Scale (FLSS):** The FLSS, developed in 2000 by Barraca et al. [20], was adapted into Turkish by Tasdelen Karckay [21]. The scale consists of 27 items in two sections of bipolar and unipolar. The respondent is instructed to complete the sentence "When I am at home, with my family, I mostly feel..." by selecting one of six choices from a range of bipolar adjectives (e.g., end points on one range are happy and unhappy). The total score is in the range of 27 to 135, with higher scores indicating a higher level of satisfaction with family life [21]. The Cronbach-alpha internal consistency coefficient was found to be 0.83 in this study.

**Data analysis**: Data obtained in the study were analysed statistically using SPSS vn. 23.0 software. Frequency distribution for categorical variables and descriptive statistics for numerical variables were used to analyze the research data. Differences between two groups were determined using the Independent Samples t-test and differences between more than two groups with One-way Analysis of Variance (ANOVA). In line with the results of ANOVA, the Levene test was performed to determine the homogeneity of variance, then the group or groups causing the difference was determined with the "multiple comparison test" (Bonferroni or Tamhane's T2). The difference between groups of homogeneously distributed variables was analyzed with Bonferroni and the difference between group of variables that did not provide homogeneity of variance was analyzed with the Tamhane T2 test. Pearson correlation analysis was used to examine the relationship between numerical measurements, then linear regression analysis was applied to examine the effects on the measurements. The Cronbach alpha value was used to evaluate the reliability of the scale. A value of *p*<0.05 was accepted as statistically significant.

## Results

The descriptive characteristics of the adolescents are shown in Table 1. The mean age of the participants was 16.04±1.06 years, 51.2% were female, 92.7% of the participants' parents were living together, 96.7% of the participants' parents were alive, 25.0% of the participants' mothers were working, 88.8% of the participants' fathers were working, 58.1% thought that their income was equal to their expenses, 29.3% thought that their mother was highly tolerant, 24.0% that their father was highly tolerant, and 44.7% expressed their academic achievement as moderate.

**Table 1.** Descriptive characteristics of adolescents

|  | Number | % |
|---|---|---|
| **Gender** | | |
| Female | 260 | 51.2 |
| Male | 248 | 48.8 |
| **Grade** | | |
| 9. Grade | 123 | 24.2 |
| 10. Grade | 168 | 33.1 |
| 11. Grade | 114 | 22.4 |
| 12. Grade | 103 | 20.3 |
| **Age Mean ± SD (min-max)** | 16.04±1.06 ( 12-20) | |
| **Parents' Living Together** | | |
| Together | 471 | 92.7 |
| Apart | 37 | 7.3 |
| **Parents' Life Status** | | |
| Both are alive | 491 | 96.7 |
| Mother is alive, father is dead | 12 | 2.4 |
| Father is alive, mother is dead | 4 | 0.8 |
| Both are dead | 1 | 0.2 |
| **Mother's Working Status** | | |
| Working | 127 | 25.0 |
| Not Working | 381 | 75.0 |
| **Father's Working Status** | | |
| Working | 451 | 88.8 |
| Not Working | 57 | 11.2 |
| **Mother's Educational Background** | | |
| Primary School | 197 | 38.8 |
| Secondary School | 86 | 16.9 |
| High School | 121 | 23.8 |
| University and higher | 104 | 20.5 |
| **Father's Educational Background** | | |
| Primary School | 93 | 18.3 |
| Secondary School | 94 | 18.5 |
| High School | 149 | 29.3 |
| University and higher | 172 | 33.9 |
| **Mother's Child-rearing Attitudes** | | |
| Authoritarian | 99 | 19.5 |
| Democratic | 96 | 18.9 |
| Highly tolerant | 149 | 29.3 |
| Highly protective | 85 | 16.7 |
| Ignorant | 24 | 4.7 |
| Perfectionist | 55 | 10.8 |
| **Father's Child-rearing Attitudes** | | |
| Authoritarian | 107 | 21.1 |
| Democratic | 105 | 20.7 |
| Highly tolerant | 122 | 24.0 |
| Highly protective | 56 | 11.0 |
| Ignorant | 65 | 12.8 |
| Perfectionist | 53 | 10.4 |

**Table 1.** Descriptive characteristics of adolescents (continued)

|  | Number | % |
| --- | --- | --- |
| **Economic Status** | | |
| Income less than expenses | 87 | 17.1 |
| Income equals expenses | 295 | 58.1 |
| Income above the expenses | 126 | 24.8 |
| **Number of Siblings** | | |
| 1 | 21 | 4.1 |
| 2 | 161 | 31.7 |
| 3 and more | 326 | 64.2 |
| **Academic Achievement** | | |
| Poor | 79 | 15.6 |
| Moderate | 227 | 44.7 |
| Good | 171 | 33.7 |
| Very Good | 31 | 6.1 |

The analysis of the mean scores of the problematic internet use scale based on academic achievement revealed a significant difference between PIUS-A mean score ($p<0.001$). The total scale mean score of participants with poor academic achievement were found to be higher (Table 2).

When the mean scores of the problematic internet use scale according to the economic situation were compared, it was defined that there was a significant difference between PIUS-A mean score ($p<0.001$). The average score of those who expressed their economic status as lower than income and expenditure was found to be the highest (Table 2).

**Table 2.** Mean PIUS-A and FLSS scores with regard to personal characteristics of adolescents

| CHARACTERISTICS | PIUS-A | FLSS |
| --- | --- | --- |
| **Total** | 61.35±23.18 | 96.62±19.17 |
| **Gender** | | |
| Female | 62.23±22.84 | 95.36±19.75 |
| Male | 60.42±23.54 | 97.94±18.49 |
| *p* value | 0.380 | 0.130 |
| **Grade** | | |
| 9. | 61.94±22.51 | 97.33±18.97 |
| 10. | 62.96±23.00 | 96.19±18.32 |
| 11. | 60.33±24.43 | 95.60±20.52 |
| 12. | 59.15±22.95 | 97.61±19.42 |
| *p* value | 0.566 | 0.889 |
| **Parents' Living Together** | | |
| Together | 61.16±22.92 | 97.17±19.16 |
| Apart | 63.70±26.45 | 89.62±18.17 |
| *p* value | 0.576 | 0.021** |
| **Mother's Working Status** | | |
| Working | 59.95±20.66 | 96.33±20.46 |
| Not Working | 61.82±23.97 | 96.71±18.75 |
| *p* value | 0.389 | 0.847 |
| **Father's Working Status** | | |
| Working | 61.00±22.98 | 97.28±19.04 |
| Not Working | 64.14±24.77 | 91.42±19.55 |
| *p* value | 0.333 | 0.031** |

**Table 2.** Mean PIUS-A and FLSS scores with regard to personal characteristics of adolescents (continued)

| CHARACTERISTICS | PIUS-A | FLSS |
|---|---|---|
| **Economic Status** | | |
| Income less than expenses | $69.36\pm25.64^{1}$ | $92.59\pm19.81$ |
| Income equals expenses | $61.28\pm23.46^{2}$ | $95.97\pm19.44$ |
| Income above the expenses | $55.99\pm18.93^{3}$ | $100.92\pm17.34$ |
| p value | <0.001* <br> 1>2>3 | 0.005** <br> 3>1-2 |
| **Academic Achievement** | | |
| **Bad** | $69.36\pm25.64^{1}$ | $89.78\pm21.81$ |
| Moderate | $61.28\pm23.46^{2}$ | $95.33\pm17.58$ |
| **Good** | $55.99\pm18.93^{3}$ | $100.74\pm18.91$ |
| p value | <0.001 <br> 1>2>3 | <0.001* <br> 3>1-2 |
| **Mother's Educational Background** | | |
| Primary School | $63.02\pm24.48$ | $95.95\pm18.69$ |
| Secondary School | $62.11\pm26.15$ | $96.02\pm18.72$ |
| High School | $62.24\pm23.04$ | $95.32\pm21.16$ |
| University and higher | $56.52\pm17.08$ | $99.89\pm17.87$ |
| p value | 0.122 | 0.273 |
| **Father's Educational Background** | | |
| Primary School | $62.81\pm23.40^{1}$ | $95.12\pm17.56^{1}$ |
| Secondary School | $67.40\pm26.86^{2}$ | $92.93\pm19.26^{2}$ |
| High School | $59.01\pm21.90^{3}$ | $100.77\pm18.99^{3}$ |
| University | $59.28\pm21.42^{4}$ | $95.85\pm19.6^{4}$ |
| p value | 0.021 | 0.010* |
| **Father's Child-rearing Attitudes** | | |
| Authoritarian | $61.69\pm21.53$ | $91.42\pm18.68^{1}$ |
| Democratic | $60.18\pm21.70$ | $101.94\pm14.60^{2}$ |
| Highly tolerant | $59.04\pm23.11$ | $101.91\pm17.83^{3}$ |
| Highly protective | $57.33\pm23.08$ | $99.19\pm17.11^{4}$ |
| Ignorant | $69.15\pm25.41$ | $82.30\pm21.54^{5}$ |
| Perfectionist | $63.00\pm25.28$ | $99.22\pm19.40^{6}$ |
| p value | 0.054 | <0.001* <br> 2,3,4,6>5 |
| **Mother's Child-rearing Attitudes** | | |
| Authoritarian | $62.80\pm22.65$ | $89.04\pm19.101$ |
| Democratic | $59.52\pm20.01$ | $100.69\pm14.69$ |
| Highly tolerant | $60.00\pm23.67$ | $104.12\pm17.79$ |
| Highly protective | $64.14\pm24.95$ | $94.50\pm17.65$ |
| Ignorant | $65.83\pm29.98$ | $76.04\pm19.64$ |
| Perfectionist | $59.34\pm21.96$ | $95.10\pm20.15$ |
| p value | 0.546 | <0.001* |
| **Number of Siblings** | | |
| 1 | $62.23\pm22.50$ | $95.76\pm12.86$ |
| 2 | $62.47\pm22.95$ | $97.22\pm21.74$ |
| 3 and more | $60.74\pm23.38$ | $96.38\pm18.17$ |
| p value | 0.731 | 0.888 |

F1: One-way ANOVA test $p<0.05$*, Tamhane's T2**, Bonferroni, t2: Independent sample t-test**, $p<0.05$

A significant difference was found between the total score average of PIUS-A mean score according to the father's educational status of the adolescents. It was determined that the average score of those whose father's education level was secondary school was significantly higher than the others ($p < 0.021$) (Table 2).

There was no significant ($p > 0.05$) difference between the FLSS score averages according to age, gender, grade level, number of siblings, educational status of the mother, and employment status of the mother (Table2).

A significant difference was determined between the mean scores of the FLSS according to their parents' living together, father's working status, father's education level, family's economic status, academic success and parental attitudes ($p < 0.05$) (Table 2).

The relationship between PIUS-A and FLSS is shown in Table 3. A low-level negative significant correlation was found between the PIUS-A mean score and the FLSS mean score (r:-0.262, $p < 0.001$). A very low and significant negative correlation was found between FLSS and negative consequences of using the internet (r:-0.027, $p < 0.001$) and overuse (r:-0.094, $p$:0.034). A low, negative and significant relationship was determined between FLSS and the social benefit sub-dimension (r:0.255, $p < 0.001$).

**Table 3.** The relationship between adolescents' mean scores in Problematic Internet Use Scale-Adolescent (PIUS-A) and The Satisfaction with Family Life (FLSS) scale

| Scales | FLSS | |
|---|---|---|
| **PIUS-A** | *r:* -0.262 | *p*<0.001 |
| **Negative Consequences of Using the Internet** | r: -0.027 | *p*<0.001 |
| **Overuse** | r: -0.094 | *p*:0.034 |
| **Social Benefits** | r: -0.255 | *p*<0.001 |

r: Pearson correlation coefficient, *\*p<0.001*

The independent variables affecting the problematic internet use score are shown in Table 4. The effect of the variables on the problematic internet use score was examined with linear regression analysis and the regression model created was found to be statistically significant (F:8.401, $p < 0.001$). The enter method was used as the method in the regression model created and was seen to explain 10.5% of the independent variables and the dependent variable. According to the standardized regression coefficient, the FLSS score ($\beta1$:-0.209, $p < 0.001$) appeared to be a predictor of problematic internet use. In addition, it was determined that the PIUS-A score of those with good economic status was 7.840 units lower ($p$:0.019) than that of those with poor economic status, and the PIUS-A score of those with good school performance was 10.426 units lower than that of those with poor economic status ($p$:0.001). The father's education level was not determined to be an important predictor of PIUS-A ($p > 0.05$).

**Discussion**

The aim of this study was to determine the relationship between the problematic internet use levels of adolescents and their family life satisfaction levels. The results of the analysis revealed a significant negative relationship between the problematic internet use of adolescents and their level of satisfaction with family life. In the literature review, no previous study could be found which examined the relationship between family life satisfaction and problematic internet use. However, family life satisfaction is known to be associated with concepts such as a positive relationship between family members, being happy in the family environment, harmony between family members and life satisfaction [22]. The results of other studies examining the relationship between life satisfaction and problematic internet use have also revealed that life satisfaction decreases as problematic internet use behavior increases. In a study conducted in adolescents whose

**Table 4.** Examining the effect of independent variables affecting the PIUS-A score by linear regression analysis

| | $\beta_0$ (%95 CI) | S. Error | $\beta_1$ | t | p |
|---|---|---|---|---|---|
| **Constant** | 98.395 (87.011- 109.779) | 5.794 | | 16.981 | <0.001 |
| **FLSS** | -0.253(-0.357 - -0.149) | 0.053 | -0.209 | -4.786 | <0.001 |
| **Economic Status (Income less than expenses)** | | | Reference | | |
| Income equals expenses | -5.537 (-10.946- -0.128) | 2.753 | -0.118 | -2.011 | 0.045 |
| Income above the expenses | -7.840(-14.379- -1.301) | 3.328 | -0.146 | -2.356 | 0.019 |
| **Academic Achievement (Bad)** | | | Reference | | |
| Moderate | -7.267 (-13.011- -1.523) | 2.924 | -0.156 | -2.486 | 0.013 |
| Good | -10.426(-16.347- -4.505) | 3.013 | -0.220 | -3.460 | 0.001 |
| **Father's Educational Background (Primary school)** | | | Reference | | |
| Secondary School | 4.322(-1.993-10.638) | 3.214 | 0.072 | 1.345 | 0.179 |
| High School | -1.404(-7.169- 4.362) | 2.935 | -0.028 | -0.478 | 0.633 |
| University and upper | -1.314(-7.109- 4.480) | 2.949 | -0.027 | -0.446 | 0.656 |

F=8.401, $p$<0.001, R²=11.9%, Adjusted R²=10.5%, $\beta_1$: Unstandardized Coefficients, $\beta_0$: Standardized Coefficients

parents were divorced, Van Dijk et al. [23] found that problematic internet use is more common particularly among adolescents who stated that they did not feel close to their mothers. In another study of 466 Brazilian adolescents, Andrade et al. [24] emphasized that family conflicts and child-parent conflicts cause unhealthy behaviors in children such as problematic internet use and that families should be involved in studies that aim to limit internet use. Say and Durak Batigun [16] also reported that an adolescent's negative relationship with their parents has the effect of increasing problematic internet use. It is an undeniable fact that the family has a great influence on the development of the child. In a family environment where family relationships are inadequate, the development of the child is hindered. The child may think that his own thoughts and feelings are not important and may seek other relationships. Consequently, a child who is not satisfied with family life can take refuge on the internet and the needs that cannot be met with family relationships are tried to be met by turning to the internet (smartphone, tablet, computer, etc.).

The problematic internet use levels of adolescents were examined according to their individual characteristics. Accordingly, a significant difference was determined between the variables of family income, academic achievement, father's educational background and father's child-rearing attitudes and problematic internet use, although as a result of the regression analysis, it was determined that the educational status of the father was not an important predictor of problematic internet use. The adolescents who thought that their family income was more than their expenses were determined to have lower levels of problematic internet use. In previous studies [25-28] it has been observed that individuals with better economic status have higher levels of problematic internet use. It is thought that the economic situation improves in parallel with the education level of the father, and therefore fathers with a better level of education show a more conscious approach to their children's internet use. In addition, the level of problematic internet use was determined to be lower among the adolescents who expressed their perceived academic achievement as good compared to those who expressed their perceived academic achievement as moderate or poor. In various

studies, both in the national and international literature [29, 30], the results are in parallel with the current study results. In studies of adolescents studying in high school by Sabaz and Bilgin [29], and Yavuz [27], and in a study of university students by Buzzai et al. [30], it was determined that individuals with high levels of problematic internet use exhibit poorer academic achievement. The results of those studies showed that individuals with a problematic internet use disorder face some problems such as not using time effectively, not allocating appropriate time to study, deterioration in social interaction and deterioration in interpersonal relations with friends. Therefore, it seems inevitable that the negative consequences brought about by problematic internet use will adversely affect academic achievement.

**Limitations of the study**

The main limitations of this study were that the research data could not be collected face-to-face due to the COVID-19 pandemic, that the responses were limited to the answers given by the adolescents and that the results of the study could only be generalized to the group participating in the study.

Since the data of the study was collected on the internet, only adolescents who could access the internet and had a smart phone could participate in the study, which may have affected the level of problematic internet use.

The use of a non-probability method in determining the sample and the fact that the number of participants was much lower than the population also constituted an important limitation.

Finally, as this was a cross-sectional study design, the direction of causation could not be determined and reverse causation cannot be excluded.

In conclusion, from the results of this study, it can be concluded that problematic internet use is higher in children with low family life satisfaction. The study can be considered of value as there is no other study in the literature which has examined the level of family life satisfaction and problematic internet use together. This study can be of guidance for further studies to be conducted and will contribute to the relevant literature.

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**Ethics statement:** Before initiating the study, necessary permission was obtained from Yozgat Bozok University Ethics Commission (decree no: 27/16 decree date: 12.11.2021) and Yozgat Provincial Directorate of National Education (issue: e-55005497-604.01.01-39363014, date: 20.12.2021). The participants and their parents were required to sign an Informed Consent Form before participating in the research.

### Authors' contributions to the article

A.N.K. have constructed/constructed the main idea and hypothesis of the study E.C. and A.N.K. they developed the theory and arranged/edited the material and method section. E.C. and A.N.K. have done the evaluation of the data in the Results section. Discussion section of the article written by E.C. and A.N.K. reviewed, corrected and approved. In addition, all authors discussed the entire study and approved the final version.